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ABSTRACT

The study on Australian health manpower focuses on lessons of value to the United States, on the eve of an expanded national health system. Researchers asked: What can be learned about the soundest approach from a similar country that has had an extensive health insurance program for many years, and is about to enact a more comprehensive one? The study is presented in six chapters. First is a relatively brief overview of the Australian health care system; second, a summary of the health manpower resources, with some data on facilities, and their distribution by type and geography; and third, an examination of recent innovations in functions of health manpower, new types of personnel, and new ways in which established types of health workers are functioning. Chapter 4 reviews the educational system for health manpower, emphasizing recent changes, and Chapter 5 analyzes the several methods of regulating health personnel, through governmental and voluntary channels. Chapter 6 recapitulates the highlights and trends in all aspects of health manpower policy and practice deemed especially salient for the United States. The information was gathered through a literature review supplemented by three visits to Australia. A list of 165 persons and agencies interviewed is appended. (Author/AJ)

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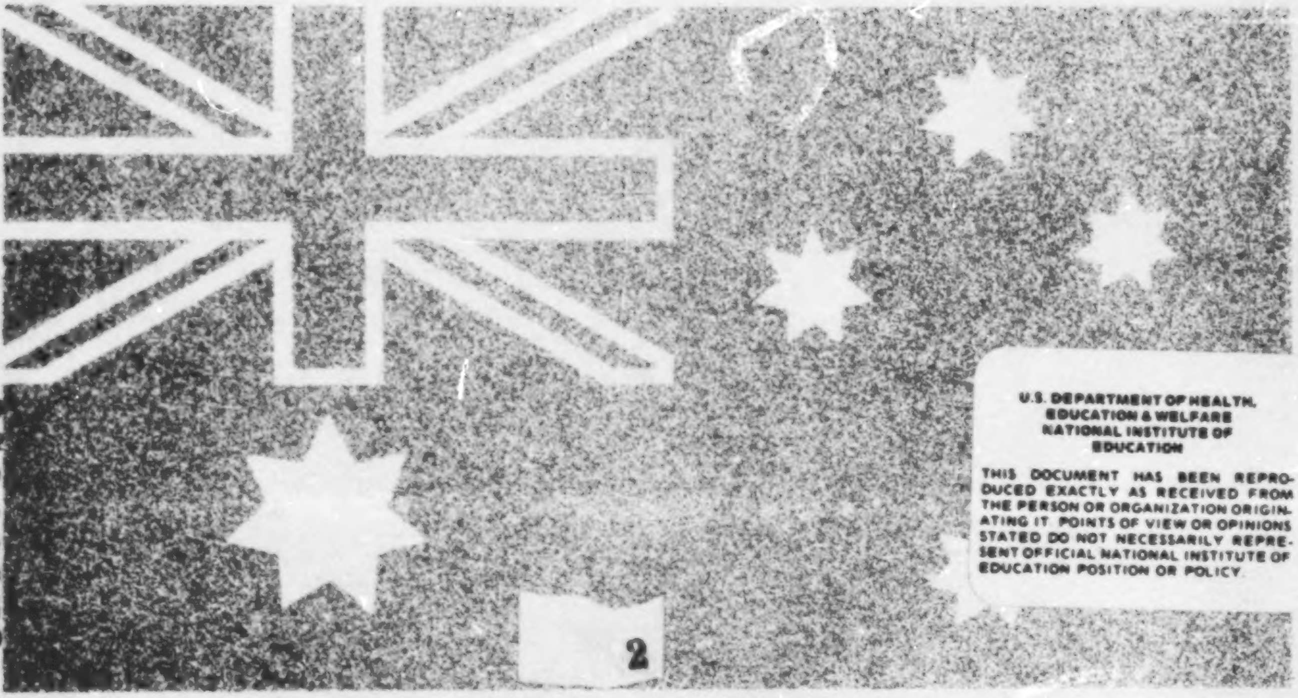

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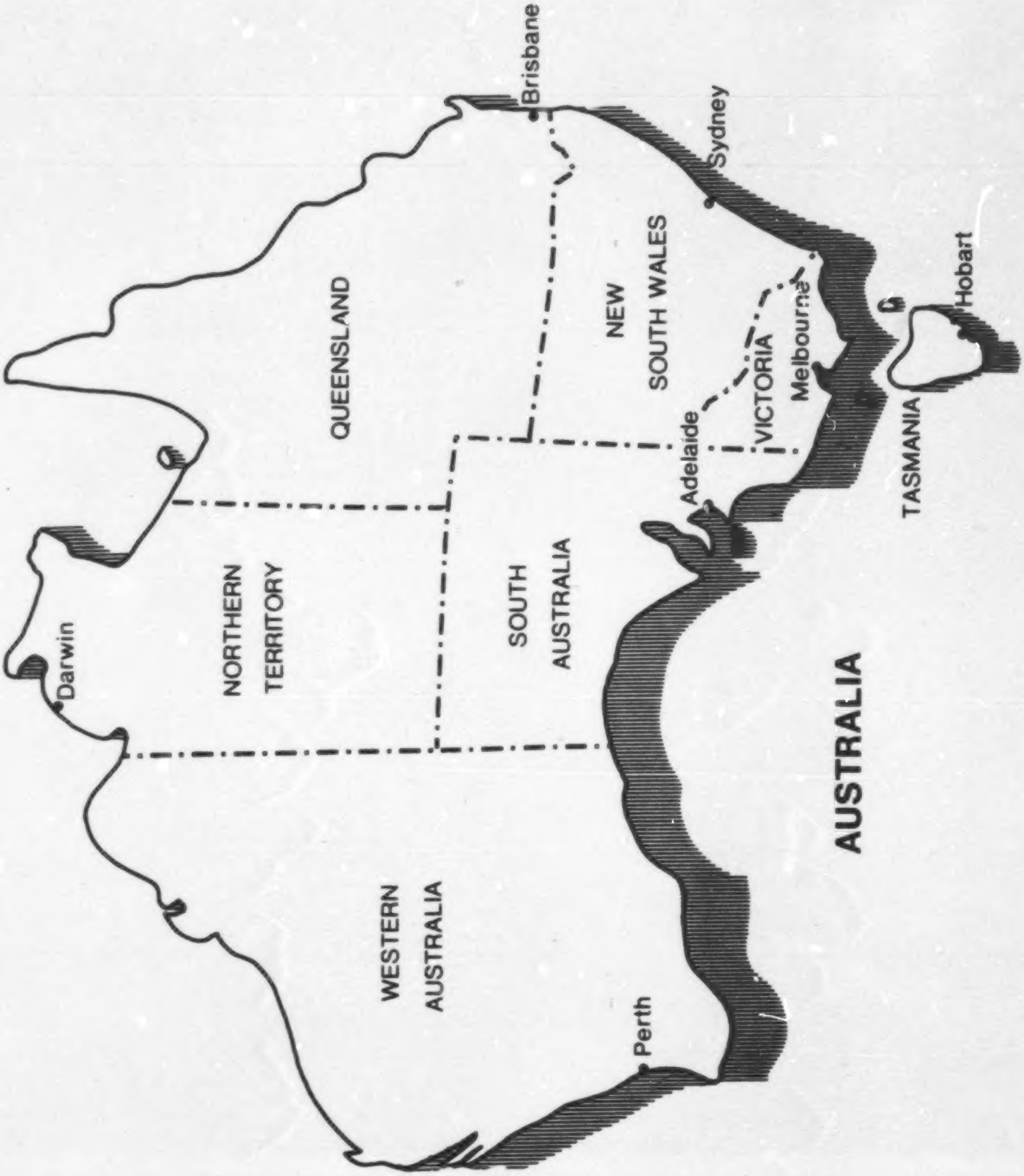

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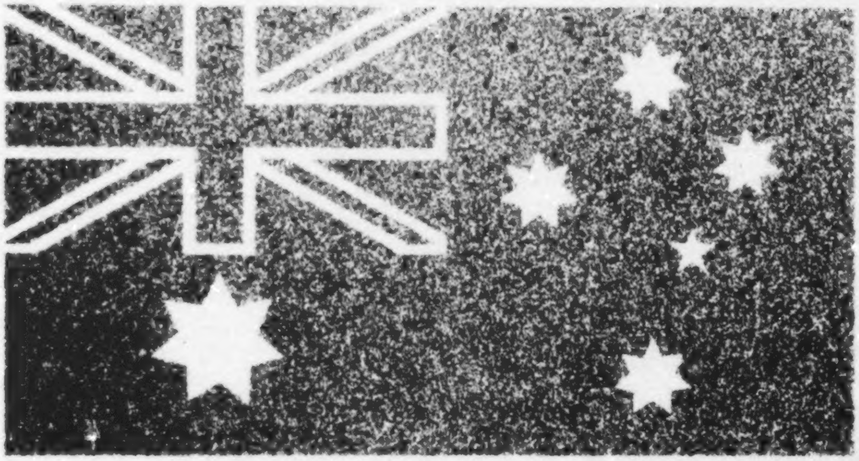
HEALTH MANPOWER IN THE CHANGING AUSTRALIAN HEALTH SERVICES SCENE

by
Ruth Roemer, J.D.
and
Milton I. Roemer, M.D.

School of Public Health
University of California
Los Angeles, California



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Preface

The focus of this study on health manpower in the changing Australian health services scene is on lessons available from the Australian experience that might be of value to the United States. On the eve of an expanded national health insurance program in America, there are naturally many concerns about the soundest approach to adjusting our manpower supplies, distribution, functions, and regulation to cope with an expected increase in demands for health care. What can we learn from another country, similar in many respects to ours, that has had an extensive health insurance program for many years and is about to embark on a more comprehensive one?

The information in this report was gathered through a study of Australian health manpower literature going back over about the last ten years, supplemented by three visits to Australia – two of 10 days each in August and October 1973 and a 6-week visit in July-August 1974. It may be of interest to record that our literature search led to prior annotations of 237 books, reports, and articles, and later reviews of many more. Our study-visits to Australia permitted us to interview some 165 persons and agencies, listed in Appendix I.

At the end of each chapter of this volume is a list of references, but we take pains to point out that most of the material – for which no particular citations are given – was gathered from the numerous personal interviews. We trust that our interpretations do no violence to the communications from the men and women who so generously shared their knowledge and insights with us.

The study is presented in six chapters. First is a relatively brief overview of the Australian health care system as a whole. Chapter Two summarizes the health manpower resources, with some data on facilities, and their distribution – by type and geography. Third, we examine recent innovations in functions of health manpower – both new types of personnel and new ways that established types of health worker are serving. In Chapter Four, we review the educational system for health manpower in Australia, with emphasis on recent changes under way. Chapter Five analyzes the several methods of regulating health personnel – through both governmental and voluntary channels. Finally, in Chapter Six, we recapitulate the highlights and trends in all aspects of health manpower policy and practice which we interpret to be especially salient for the United States.

In following this sequence of presentation, some repetition is inevitable, but we trust it is not troublesome. For example, the robust educational program in "family medicine" must be reported in Chapter Four (education), but it cannot be ignored in Chapter Five insofar as continuing education of family doctors constitutes a form of "regulatory" influence.

For the several aspects of health manpower explored, we attempted to examine developments in each of the medical and allied health fields. While time constraints compelled cursory treatment of one or another specialized discipline, we hope that our perspective has been sufficiently comprehensive to yield a balanced overview, and regret any oversights.

Our emphasis in all six chapters is principally on the innovative and the unusual. This gives the impression that Australia today is in a period of great change and ferment. Even had this not been our approach, the latter judgment, we believe, would be sound. With a change of national government in late 1972, Australia is, indeed, in a period of intense exploration of new ideas. As will be evident, we believe that many of these ideas have important lessons to teach the United States. We hope that their review, through the eyes of two foreigners, may be of some small value to the Australians also.

The sources listed in Appendix I are the principal persons and agencies to whom we are indebted for assistance in collecting this information. Special acknowledgment must be extended to our major Australian consultant, Dr. Anthony I. Adams, who in addition to sharing his knowledge with us was so helpful in making the detailed arrangements for our several visits throughout the nation. In each jurisdiction, furthermore, one person was our particular guide and mentor – in the national capital, Mr. Matthew Carroll; in Victoria, Dr. Richard Southby; in South Australia, Dr. Brian Shea; in Tasmania, Dr. G. Mackay-Smith; in Queensland, Dr. Owen Powell. We are deeply grateful to them for their invaluable assistance, both technical and personal. To Dr. Sidney Sax and Mr. L. J. Daniels, at the federal level, and others in the state governments, educational institutions, and health agencies too numerous to cite in this brief Preface, we also owe a special debt. We regret that only Western Australia and the Northern Territory, among Australia's eight jurisdictions, could not be visited due to the constraints of time; we attempted to compensate for this gap through study of published documents.

In the planning of this research, we were guided significantly by the advice of the Project Officer of the Health Resources Administration of the U.S. Department of Health, Education, and Welfare, Betty Lockett, Ph.D. We wish to acknowledge also our appreciation for the opportunity to discuss our research plans with numerous health manpower experts throughout the United States in September 1973 and with a conference of officials of the federal government in May 1974. We benefited likewise from similar discussions with officials of the World Health Organization in Geneva, Switzerland, who were engaged in a related study of dental manpower systems in relation to oral health status.

It need hardly be said that the interpretations of facts or events are those of the authors and, we are aware, that they may not always coincide with the dominant viewpoints in Australia. We can only plead forgiveness for any failures by two outsiders, who found it no small challenge to understand and report accurately events that seemed to change daily before our eyes.

Milton I. Roemer, M.D.
and
Ruth J. Roemer, J.D.

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Chapter One

THE AUSTRALIAN HEALTH CARE SYSTEM

To set the stage for description and analysis of health manpower policies in Australia, it will be helpful to summarize briefly the over-all health care system of the country, including its national system of health insurance, other special medical care programs, the health services provided by state governments, and the major patterns of delivery of ambulatory and hospital care. But first, a few words should be said about the nation itself.

The Australian Setting

Australia is the only land mass on earth, defined as a continent, which is also a single nation. It is a vast territory of 7,679,000 square kilometers (larger than the continental United States), located in the Southern Hemisphere – which makes its seasons roughly opposite to those of North America (i.e., July and August are winter). By comparison with other geographically larger nations, however, Australia's population is small, being just over 13,000,000 in 1972.(1) These people, moreover, are heavily concentrated in a half-dozen large cities (Sydney, Melbourne, Brisbane, Adelaide, Hobart, and Perth), that serve as capitals of the nation's six states and are all (except Hobart on the coast of a satellite isle) located at points on the coast of this great island. The vast interior is mainly desert and very thinly populated. Thus the 13,000,000 Australians are heavily urban – 65 percent living in cities of 100,000 or more, another 21 percent in smaller urban centers, and only 14 percent considered rural. This dramatically irregular population distribution has given the country a "frontier" character, much like the United States in the early nineteenth century.(2)

The six states and their capitals in rank order of their state populations (as of 30 June 1973) are:

State	Capital	Population
New South Wales	Sydney	4,702,500
Victoria	Melbourne	3,586,600
Queensland	Brisbane	1,914,900
South Australia	Adelaide	1,199,200
Western Australia	Perth	1,068,400
Tasmania	Hobart	396,000

The balance of the nation consists of the huge Northern Territory with only 95,600 people (half in the coastal city of Darwin), and the urbanized Australian Capital Territory (A.C.T.) with 168,400 people – physically located within the state of New South Wales, roughly halfway between Sydney and Melbourne (Victoria).

The largest state, New South Wales (N.S.W.) is also the oldest, having been settled mainly by convicts sent from Great Britain in 1788 – just a few years after the British crown had been defeated in the American Revolution. The youngest state is Queensland, established in 1859. Actually before the end of the nineteenth century, each of these states was a more or less self-governing British colony, reporting through an appointed Governor directly to the crown in London, England.(3) Federation of the six states and two territories into one parliamentary nation, with its own Constitution, occurred as recently as 1901. As a vestige of the past, there is still a Queen-appointed Governor-General in Canberra, the national capital, and a Lt.-Governor in each state capital, but their duties are essentially ceremonial.

With this background, it is easy to appreciate why even today each of the six states in the Commonwealth (as it is often called) has a great deal of autonomy, especially in matters like health and education.(4) As we shall see, this has been changing in recent years, as federal legislation – similar to trends in the United States of America – has vested greater authorities at the national level, associated generally with Commonwealth tax-raising powers. Nevertheless, in each state, as at the federal level there is an elected Parliament, with Upper and Lower Houses (except in Queensland, which is unicameral) that enact laws. The executive authorities of the national and state governments follow the British model, with the leader of the political party (or sometimes a coalition of two parties) holding a majority in the Lower House being asked by the Queen's representative to form a government. This leader becomes Prime Minister and each of the categorical ministers must be chosen from elected members of the Lower House. The Minister for Health nationally in 1974 happened to be a physician, but this is not normally the case at federal or state levels.

In economic terms, Australia is a well-developed nation with a gross domestic product in 1972-73 of $40,755,000,000, or on a per capita basis about $3,000 (Australian currency). In U.S. dollars of mid-1974 (U.S. $1.50 = Austr. $1.00), this would amount fo $4,500, placing Australia among the world's most prosperous countries. Only about 11 percent of the economically active population are engaged in agriculture, forestry, fishing, and mining, while almost 90 percent are in manufacturing, trade, construction, and other urban oriented industries.(5)

Relative to the United States, the distribution of income in Australia is quite equalized; there are few extremely wealthy or very destitute. The unemployment rate in 1971 was only 1.6 percent (when it was about 5 percent in America). There is one motor vehicle for every three of the population, and almost every Australian home has at least one radio and a refrigerator. A high percentage also have washing machines, telephones, and television sets.

Probably the main exception to the generally good standard of living in Australia is the Aboriginal population. In 1971, these numbered only 106,000 or less than one percent of the total. They are distributed among almost all the states, but live principally in the dry interior regions. In recent years, however, there has been a gradual tendency for the rural Aboriginal people to move into the cities, to have their children attend regular public schools, and to become slowly acculturated to the prevailing society.

The principal political parties in Australia are the Liberal Party, the Australian Country Party, and the Australian Labor Party – moving from right (conservative) to left on the customary political spectrum. The ideology of the party in control nationally has, of course, a great deal of influence on policies in the field of health services. This is especially clear in the programs of health care insurance, where the relative powers exercised by the private and public sectors of the economy are subject to great variation.(6) Going back some 30 years, the parties in power nationally have been:

1941-49	Labor Party
1950-72	Liberal Party
December 1972 - date	Labor Party

Thus, after some 22 years of Liberal Party control nationally, the election of a Labor Party Government in December 1972 has yielded a great current ferment in the health services and health manpower scene, which will be evident throughout the account that follows.

The National Health Insurance System

The present system of insurance for medical care in Australia is remarkably complicated, and can be best understood by considering a little of its background.*

Historical Department

As far back as 1927, a "National Insurance Bill" was introduced into the Commonwealth (federal) Parliament. It was a comprehensive bill, including sickness, invalidity, and maternity benefits, among others.(7) The measure was opposed by both employers and friendly societies (which had long operated their own voluntary health insurance programs), as well as by state governments, and with the onset of the world-wide Depression in 1929, it was shelved. In 1938, another "National Health and Pension Bill" was introduced, but this time it was opposed even by the non-incumbent Labor Party, which favored a scheme supported by general revenues rather than social insurance. In spite of this, the bill was actually enacted in July 1938 and a National Insurance Commission was appointed. Before the Commission's planning could be completed, however, World War II broke out, and the law was never implemented.

supported by general revenues rather than social insurance. In spite of this, the bill was actually enacted in July 1938 and a National Insurance Commission was appointed. Before the Commission's planning could be completed, however, World War II broke out, and the law was never implemented.

Instead, in 1941, during the war, a child endowment program (called "family allowances" in other countries) was launched, as a side-effect of a wage controversy, and this was financed solely by a payroll tax on employers. It may be noted that this first nation-wide social insurance program in Australia was launched under a Liberal Government. This time, however, it was with the concurrence of the Labor Party, which soon after (in October 1941) gained political control nationally.(8)

Pharmaceutical Benefits. Strange, in comparison with social security developments in other nations, was the initial health care benefit introduced nationally by the Labor Government when it gained power during World War II – the financing of high-cost and life-saving drugs! The Pharmaceutical Benefits Bill was introduced in 1944 and was promptly passed; it was to be financed not by employer or employee contributions, but by an earmarked sector of the general revenues from federal income taxes, used for establishing a National Welfare Fund. Harbinger of conflicts to come in larger health spheres (and continuing sharply to the present day) was the non-cooperation – essentially a boycott – by the private medical profession, which refused to use the official prescription forms issued for administration of the federal pharmaceutical benefits. This was followed by a court action of the Medical Society of Victoria, in which the Australian High Court held the entire Act invalid on the ground that it restricted the freedom of physicians.

As a result of this judicial defeat, the Labor Government, through a national referendum, succeeded in enacting a Constitutional Amendment broadening federal powers in the welfare field. This was in 1946, and the next year another Pharmaceutical Benefits Act was enacted again – only to meet the same obstruction (a 90 percent boycott) from the private doctors. Not until 1950, when the conservative Liberal Party was returned to power, did the doctors cooperate. Minor changes in the administrative procedures were made – such as permitting doctors to use their own prescription pads, rather than official forms, and calling the 139 authorized life-saving and costly drugs a "list," rather than a "formulary" – but it was evident that the profession's cooperation, at last, stemmed from alleviation of the fear that drug benefits, under a conservative government, would not constitute an "entering wedge to fully socialized medicine." (10)

Meanwhile, after the initial obstruction of the federal drug program in 1944, the Labor Government had enacted the first federal health benefit legislation which has survived to the present – the Hospital Benefits Act of 1945. This provided grants of six shillings (60 cents) a day for each patient in a public or private hospital (definitions of these facilities will be discussed below), provided no charges were made to poor patients occupying "public beds." This grant program furnished seriously needed financial aid to all the nation's hospitals and, as we shall see, led to further hospital subsidies in later years. In the same year, 1945, a Tuberculosis Act was passed, providing federal grants for long-term hospitalization of all TB cases, which were still highly prevalent in this period. Further amendments, however, were required in 1948 before this program became effective. In that year also a program of federal grants for mental hospital care was enacted. Finally, in December, the National Health Service Act of 1948 was enacted, authorizing a broad program of medical, dental and related services to be financed by the federal government through payment of a major part of private professional fees. Although the Labor Government emphasized that it did not intend to implement this law all at once, the medical profession made equally clear that it had no intention of cooperating.(11)

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*This analyzes the situation as of mid-1974, after which important changes were made, described later.

A New Approach – The "Page Plan." Not surprisingly, when the Liberal Party returned to power one year later (December 1949), a new approach to general medical care insurance was bound to be taken. Its essence was to provide governmental subsidies to encourage the enrollment of people in private or voluntary health insurance funds (called "health plans" in America). Such funds had, indeed, operated in Australia since the early twentieth century through "friendly societies" and under hospital and medical benefit insurance organizations, sponsored – as in America – by health professional groups since the 1930's. (12) A physician, Dr. Earle Page, was Minister for Health in the Liberal Government (of Prime Minister R. G. Menzies), and he had long advocated this approach – very much like proposals of contemporary American doctors. Dr. Page estimated in 1950 that, among the different voluntary health insurance programs, more than 2,000,000 Australians were already protected to some degree.

The "Page Plan," then gradually took shape between 1950 and 1953. Basically it came to have four parts. First was the slightly modified Pharmaceutical Benefits Scheme, noted earlier; under the Liberals, this grew rapidly.(13) The list of authorized drugs was lengthened from 139 items in 1950 to 232 in 1959. Naturally the costs to the federal government steadily rose, not only because of the broader list of drugs, but also from the growth of population, the gradually increasing cooperation of doctors, and the heightened rates of prescription of drugs per case (especially the newer antibiotics) by all doctors. To slow down the rise in governmental costs a co-payment charge to the patient of 50 cents (5 shillings) per prescription was introduced in March 1960 (this has risen to $1 today). To cushion the blow of the co-payment requirement, however, the approved drug list was lengthened to include almost every item in the British Pharmacopeia.(14) It should not be surprising that the drug scheme has now become the most expensive component, to the federal government, of the whole Australian national health program.

Hospital Benefits. The second part of the "Page Plan" was the Hospital Benefits Act of 1951.(15) This built upon the Labor Government's law of 1945, increasing the federal grants from 60 to 80 cents a day; but, more important in principle, was a *second* federal grant to all hospitals of 40 cents a day on behalf of those patients who had voluntary hospital insurance. The latter insurance typically paid hospitals, for their insurees, 60 cents a day. Thus, a total of $1.80 a day (80 plus 40 plus 60 cents) was payable in 1951 from three different sources, with respect to voluntarily insured patients. Added to a *fourth* fiscal source – the state governments which supported the major portion of all public (though not private) hospitals – this amount was sufficient to cover the normal public ward charges at the time. Patients choosing to use private hospitals, of course, or private rooms in public hospitals, typically had to pay something more – either out-of-pocket, through costlier voluntary insurance, or both.

Over the years naturally, as hospital costs have risen, the structure of this hospital payment formula has changed. The above details, as of 1951, are given, however, mainly to clarify two points: (a) the mode of operation of the principle of federally-subsidized voluntary hospital insurance and (b) the general complexity of the whole mechanism of hospital financing in Australia. To slightly simplify the process, the federal subsidy for insured persons was paid to the hospitals *through* the voluntary funds; thus, the latter acted as "fiscal intermediaries" for one part of the federal government's support of hospitals, but not for the other part – which went directly from Canberra to the hospitals on behalf of *all* patients.

Medical Benefits. The third part of the "Page Plan" was the Medical Benefits Scheme, which provided subsidy of doctor's bills for insured patients.(16) In principle, as originally formulated by the Liberal Government, the sum of the voluntary insurance benefit plus the federal subsidy (transmitted, as in the hospital scheme, through the local funds) was intended to cover 90 percent of the usual cost of physician's service; the balance of 10 percent was a co-payment obligation of the patient, believed to be necessary to deter "unnecessary utilization." From its outset, however, under the National Health Act of 1953, doctor's charges escalated so rapidly that the patient ended up with an obligation to pay on the average, not 10, but 37 percent of the doctor's actual bills, This proportion fluctuated with amendments over the years, but until the major modification of 1970 (see below) the patient's out-of-pocket payments never fell below 30 percent. This was, indeed, one of several causes for the dissatisfaction that led to the major liberalization of the federal Health Benefits Plan of 1970.

Pensioner Services. Finally, the fourth part – or at least the fourth major part – of the "Page Plan" was the Pensioner Medical Service (P.M.S.).(17) This was a totally federally financed program of general practitioner medical care and hospitalization in public wards for eligible pensioners. These included not only the aged – 65 years for men and 60 for women – of low income, but also the totally disabled, recipients of widow's or military service allowances, tuberculosis patients, and their dependents. Other benefits were also provided for eligible pensioners, such as waiver of the co-payment charge on drugs and higher federal subsidy for their hospital care. Over the years this program, like the others, has been modified. It should be noted, however, that eligibility requires low income (passing a means test), so that far from 100 percent of aged and other handicapped persons are covered (in 1974 it was about 62 percent of the aged). It may also be noted that the P.M.S., like the drug benefit program, is administered and financed solely by the federal government, and does not involve the participation of the voluntary insurance funds.

These were, then, the four major components of the "Page Plan" brought into operation by the Liberal Government in the early 1950's. Although, on a world level, and especially in the United States, the components involving subsidized voluntary health insurance – a uniquely Australian innovation – have received the greatest attention, it should be realized that just two of the four major Australian medical care programs, and much less than half of the federal government expenditures, relate to this scheme.* Moreover, over the years of Liberal Party sovereignty (until late 1972), additional federally-supported programs for the treatment of tuberculosis and mental illness, for the subsidy of nursing homes (long-term institutions), and for other purposes required still further federal activity and expenditures.

The Changes of 1970. To bring the developmental story of Australia's national health insurance system up to the present period in full detail would go beyond the scope of this study. One further chapter, however, requires brief review, insofar as it led to the major amendments incorporated in the Health Benefits Plan of 1970. This requires a summary of the Nimmo Report and the subsequent legislative actions that shaped the health insurance system seen in operation in Australia today.(18)

While the strategy of subsidizing enrollment in voluntary insurance plans for hospital and medical care was effective in gradually achieving substantial fiscal protection for the great majority of Australians, a number of deficiencies in the system became increasingly visible. Despite the positive accomplishments, there were serious gaps in population coverage, in financial benefits, and difficulties in the whole administrative process that the opposition Labor Party did not fail to point out. By the late 1960's, the still controlling Liberal Party found it necessary to respond to the criticisms by appointing, in April 1968, a Committee of Enquiry into Health Insurance, chaired by Mr. Justice Nimmo.

The Nimmo Report was submitted to the Federal Parliament in March 1969. It tended to confirm several previous non-statutory investigations of the voluntary health insurance funds and related matters.(19) Without reciting the extensive explorations of the Enquiry, its principal conclusions may be summarized as follows:

(a) The health insurance scheme was unnecessarily complex and beyond the comprehension of many.
(b) There is often a wide gap between financial benefits received by patients and the costs of hospital and medical care that they must pay.
(c) Premiums have become so high that a significant proportion of people cannot afford to enroll in the voluntary funds, and for others they are a hardship to pay.
(d) The rules of many funds permit disallowance or reduction of claims in too many cases.
(e) Administrative expenses of some funds are unduly high.
(f) The financial reserves held by numerous funds are unnecessarily large.
(g) Allied health services, like podiatry, optometry, or dentistry, while important, are not included among any of the fund benefits.

As a result of these findings, the Nimmo Report made 42 recommendations for improving the health insurance program, while retaining its basically voluntary framework. These recommendations involved liberalizing benefits (e.g. eliminating exclusion of care for "pre-existing conditions" after six months' membership), controlling the level of doctor's fees, clarifying and simplifying hospital cost benefits, establishment of top limits on reserves and administrative expenses, subsidizing enrollment of low income families (a very important proposal), and numerous other changes that might improve the efficiency of the system.(20) Within the next two years, most of the important recommendations of the Nimmo Committee were acted upon by the Parliament, even changing the name of the law, with the 1970 amendments, to the "Health Benefits Plan." In 1971, to emphasize the subsidies for enrollment of low income families in voluntary funds, it was again renamed the "Subsidized Health Benefits Plan."

With the end of Liberal Party control and the national election of a Labor Party government in December 1972, there began a new wave of inquiries, reorganizations, and direct administrative actions which soon came to dominate the health care scene.(21) As of July-August 1974, however, at the time of our direct observations in Australia, the national health insurance system in operation was still that initiated under the "Page Plan," as amended over 22 years of Liberal Party control and especially by the relatively recent actions in follow-up of the Nimmo Report. The main features of these current operations of the system may now be described.

The Subsidized Health Benefits Plan

The hub of the wheel of operation of the Australian health insurance system is a network of some 90 voluntary funds.(22) The great majority of persons enrolled are in about a dozen large funds defined as "open" and operating within the boundaries of each of the six states, on the basis of one, two, or three such funds per state. A minority of the enrolled persons are in some 70-odd much smaller "closed" funds, which are limited to members of a particular friendly society, occupational group, or locality. In terms of political dynamics, the health insurance scene of Australia is obviously dominated by a handful of the large open funds, such as the Medical Benefits Fund of Australia, Ltd., which operates in New South Wales, or the Hospital Benefits Association of Victoria. As noted earlier, the numerous smaller organizations are generally much older than the large ones that arose only in the 1930's.

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*In 1971, the federal subsidy of both hospital insurance and medical insurance funds required $140,000,000, while the directly operated pharmaceutical benefits scheme, the P.M.S., and related programs cost the federal government $286,000,000.

Voluntary Medical and Hospital Insurance. In spite of their names as "medical" or "hospital" organizations, virtually all the funds provide insurance for *both* doctor and hospital care. The basic procedure for doctor's care is for the fund to indemnify the patient for approximately 70 to 80 percent of the fee charged, up to the limit of a schedule of "most common fees;" this is calculated separately, through studies of the modal value actually charged by a sample of doctors, for each of the six states. The doctor is required, under the law, to inform the patient about the "most common fee" for the service to be given, but he is free to charge more than this; if the patient agrees, he then is obligated to pay the difference out-of-pocket. For an office visit to a general practitioner in New South Wales in 1970, for example, the "most common fee" was $3.50 (in South Australia it was $2.80).(23) The patient is ordinarily expected to pay this amount directly to the doctor, and then – on presentation to his insurance fund of the receipted bill – he receives a "rebate" ("reimbursement" or "indemnification," we might call it) of $2.70. Personally, therefore, the patient's co-payment is 80 cents or about 23 percent of the charge. A substantial, but indeterminate, percentage of doctors, however, charge more than the common fee, so that the co-payment may end up at a higher figure both absolutely and percentagewise.(24) Initial contact with a general practitioner is encouraged, and consultation with a specialist through referral, by payment of a higher specialist fee only if the patient has been referred by a general practitioner.

The 1970 amendments stipulated that there be a top ceiling of $5 in co-payment obligations, no matter how high the doctor's bill (even for expensive surgical operations), so long as the common fee was actually charged. Obviously this ceiling is operative only for doctors observing the schedule of common fees; for more affluent patients the common fee is frequently exceeded.(25) One indirect reflection of how frequently this occurs is the rate at which doctors accept "assignment" of their charges by the patient to the insurance fund, which is permitted under the law. This means that the doctor would send his bill to the patient's insurance fund from which he would receive approximately 80 percent of the common fee, collecting directly from the patient only the 20 percent balance. The Australian Medical Association, however, officially discourages use of the assignment mechanism on the ground that it interferes with the doctor's freedom and may impair the doctor-patient relationship. Accordingly, it is estimated that only about 40 percent of insured medical services are paid for through assignment; for 60 percent the patient must pay the whole doctor's fee and then seek indemnification ("rebate") – which quite legally may amount to less than 80 percent of the actual charges.

The rebate received by the patient or the amount paid, through assignment, to the doctor is actually composed of two parts. Recalling the subsidy principle of the whole Australian health insurance scheme, we find that it is derived about half out of fund member premiums and about half out of the grants received from the federal government. In 1973, the federal subsidy amounted to an average of 47 percent per medical claim. It is this subsidy, of course, which makes fund premiums so low that about 80 percent of the Australian population have become enrolled in insurance funds, as of 1972.(26)

This 80 percent estimate (although some of the insurance fund spokesmen claim coverage to be closer to 85 percent), made by the Director-General of Social Security in July 1974, includes a relatively small number of low income persons who were induced to enroll by the *additional* subsidy for these people provided for in the 1970 amendments. These actually numbered in 1973 only 36,475 persons – or only about 4 percent of the roughly 1,000,000 Australians (unemployed, indigent persons, new migrants during their first two months in the country, etc.) estimated to have been eligible. This implementation of the Nimmo Report recommendation (and the legal amendment pursuant to it) has been weak, in spite of aggressive efforts to reach and persuade these disadvantaged people to join a fund. It may be considered one of the inherent deficiencies of the voluntary insurance principle, at least for a certain segment of the population.(27) Some of the uninsured 20 percent, it must be realized, however, are covered by the Pensioner Medical Service and other statutory programs to be discussed below.

There is still another federal government subsidy of the insurance funds, which was introduced in 1959 (well before the Nimmo Report) to fortify the voluntary enrollment principle. This is the government support of so-called "Special Account" cases, which involve medical and/or hospital expenses for pre-existent or chronic conditions. By assuming this financial load, the government felt justified in compelling the funds to eliminate their frequent restrictions on the treatment of pre-existent conditions. The placement of particular insurance claims in the "Special Account" category, understandably enough, has been a subject of some contention between the government and the funds.

Enrollment of people in the health insurance funds of Australia is done in strikingly different ways from those that have evolved in the United States. The vast majority of Americans with voluntary health insurance have been enrolled through their place of employment or other social groups. By contrast, about two-thirds of insured Australians have been individually enrolled.(28) Much of this is done by local pharmacists, who get commissions for their marketing of fund memberships. This adds to administrative expenses, and the government has attempted to encourage employers to collect premiums on behalf of their employees. Moreover, virtually all working people pay the premiums themselves, without contributions from employers as "fringe benefits" – so widespread in America. This is evidently attributable not only to the governmental subsidies, which make the premium cover only about half of the cost of the benefits provided, but also to a strong tradition in Australian labor circles, regarding such employer favors as "paternalism." Any gains won in collective bargaining have been wanted solely in hard cash. This feeling, in turn, is partly traced to the descent of so many Australians from convict laborers, among whom an anti-paternalistic spirit was naturally deep. Only recently has an occasional union bargained for employer contributions toward health insurance premiums.

The payment of benefits for hospital care, in contrast to doctor's bills, is nearly always made by the insurance funds directly to the hospitals (equivalent to the "assignment" method). Here again, government subsidy plays a large part, but it takes a different form. The principal public subsidy of hospital costs is through state government support of about 50 percent of the operating expenses of all so-called "public hospitals." (These include not only hospitals built and controlled by governmental units, but also voluntary non-profit institutions that are so approved; this will be discussed below.) The federal government subsidy is currently a flat $2 per patient-day in public ward beds of public hospitals, if the patient is insured; if he is not insured the federal subsidy is only 80 cents. These amounts were established in 1958, when they covered a reasonable fraction of hospital per diem costs (and the differential served as an incentive to enrollment in a fund), but they have not been adjusted as hospital costs have risen. A third governmental subsidy is for the cost of most drugs used for all (both insured and non-insured) hospital patients, through the Pharmaceutical Benefits Scheme (discussed below).

The voluntary insurance benefits paid to the hospital are, then, obviously much less than the total costs.(29) For some years these benefits were extremely varied among the different funds, but since the 1970 amendments have become standardized at three levels: $20 per day for a public ward bed, $30 for an intermediate bed, and $40 for a private bed – these applying to beds in either public or private hospitals. The insured person's premium corresponds to these benefits. A majority of fund members seem to elect intermediate bed benefits.(30) If, however, a person with insurance for public ward care chooses to use a private room, he may do so by paying the difference himself. Even the private bed benefit of $40 per day, however, may not be enough to meet the full hospital charges for such a bed, especially in a private hospital, and here again the patient must pay the difference personally.

Hospitals may have still further sources of income from endowments, contracts with teaching institutions, or from other sources. All together, it is evident that hospital financing is complex. A rough estimate of the sources of coverage of the average hospital bill for an insured person in Australia, using a public hospital, is as follows:

Source	Percent
State government	50-60
Health insurance	20-30
Federal government	10
Personal and other	10

In the private hospitals, which have only a small minority of the total beds in general facilities (see below), the state government subsidy is lacking, so that the proportion of costs payable by the patient personally and by health insurance tends to be much higher. Because of the "competition" of public hospitals, however, private hospital rates are somewhat restrained, and the capacity of these hospitals for sophisticated service is correspondingly limited. Some private hospitals do not accept assignment of insurance benefits, and the patient must seek reimbursement from his fund, as for doctor bills.

Finally, a word should be said about the role of the health insurance funds in quality or cost review of medical or hospital claims. Essentially this is limited to establishing the fact that the applicant for reimbursement is, indeed, insured and that the services rendered were covered. Hospital out-patient services, for example, are not covered. Specialist fees, as noted, are payable only on referral and evidence that the specialist is duly qualified as such. But consideration of the appropriateness of a medical procedure, the reasonability of the length-of-stay in a hospital, or other considerations for protecting quality or economy are quite absent. Such monitoring is looked upon by the Australian voluntary funds as unwarranted interference with the practice of medicine.

These then are the main features of the subsidized Health Benefits Plan, covering about 80 percent of the population for physician's and hospital services. Before proceeding to discuss other important components of the over-all Australian health care system, it will be worth considering certain criticisms of inadequacies that have been increasingly articulated in recent years.

Inadequacies and Criticisms. Since some years before mounting criticisms had generated the Nimmo Committee of Enquiry, inadequacies in the coverage, benefits, and administration of the voluntary insurance program had been pointed out by critics.(31) But even today, after the improving amendments of 1970, criticisms continue, and these have perhaps become more prominent since the election of a Labor Government in late 1972.

First of all is the question of population coverage. Despite 40 years of operation of the large open funds (and longer years for the friendly societies) and substantial government subsidies, some 20 percent of the population remains unprotected. While this 20 percent includes pensioners, who are entitled to certain medical services under a separate scheme, the range of services open to them, as we shall see, has definite restrictions. Most of the uninsured, however, are persons of low income who have not enrolled in a fund, in spite of special supplementary subsidies to which they are entitled, as well as new migrants after their first two months, young people who wish to "take a chance" on not needing medical care, or simply the thousands found in any population who, because of carelessness or neglect, do not take the steps necessary to protect their own interests. This inadequacy of voluntary enrollment is, of course, not unique to Australia. Sweden and Norway, for example, despite their long histories of mutual aid societies, still found 20-25 percent of their populations non-insured for health care until insurance was made compulsory in the 1950's.

The scope of services under the national Health Benefits Plan is intended to cover the main components of medical care – doctor's and hospital services – but, except for special arrangements in a few of the smaller closed funds, there are no benefits for many services outside the hospital. Not covered are hospital out-patient services, physiotherapy, eyeglasses, home nursing, podiatry, dental services, prosthetic appliances, nor other such ancillary services important especially for treating or rehabilitating the chronically ill. (32) (Drugs are provided through Australia's unique Pharmaceutical Benefits Scheme, which is entirely Commonwealth financed and has no connection with the voluntary insurance funds.)

Thirdly, even for the covered medical and hospital services, the protection is not complete and cost-sharing by the patient is appreciable. The proportion has varied from year to year, and in 1973 it was estimated to average 19 percent of medical charges. With the current general inflation, this percentage may be expected to rise and constitute a hardship for many families of modest means.

Fourth is the generally cumbersome administrative mechanism of operation of the insurance program. Since, as noted earlier, most doctors do not accept assignment of their claims, the patient is usually put to the inconvenience of seeking "rebates" later at his insurance fund. While this may be done by mail, the need for ready cash is evidently great enough that in the benefit fund offices each day one sees long queues of people waiting to present their claims and get reimbursements on the spot; less than half of the claims are processed through the mails, which evidently takes longer. For the minority of doctors who accept assignment and send their claims periodically to the insurance funds (sometimes called "bulk-billing"), it is argued that surveillance by the patient of the accuracy of claims is lacking.

A fifth problem relates to certain features of the Australian income tax laws and has implications for the equity of impact of medical costs. Under the law, all medical expenses, including both insurance premiums and all personal outlays, are tax-deductible. Since the income tax is progressively scaled, the result is that the net cost of health insurance for a high income person is lower than the same premium for a low income person.

A sixth criticism is the relative inefficiency of 90 separate, and competing, voluntary insurance organizations to administer benefits for a nation of 13,000,000 people. Administrative expenses amount to about 12 to 15 percent, half of which are for premium collection; much of this is done through local pharmacies that are paid commissions. Yet, as noted earlier, there is virtually no surveillance of the propriety of claims. Related to relatively high administrative expenses is, according to critics, an unnecessarily high ratio of reserve monies kept by several of the larger funds. These monies are often used for non-health related investments, which has led to the attack on some funds as "finance companies." Compared to governmental administration of health and welfare programs, the general style of the large open funds appears somewhat lavish, with elegant executive suites in their modern buildings, the use of private airplanes, and a manner more suggestive of big business corporations than of non-profit health agencies.

Because of these and other criticisms, the Labor Government elected in December 1972 took action rather promptly to overhaul the entire Subsidized Health Benefits Plan. In August 1974, at a special joint sitting of both houses of the Australian Parliament– a Constitutional provision never previously invoked – there was enacted a new National Health Act that would extend coverage to 100 percent of the population, widen the scope of benefits, simplify administration, and make numerous other changes. (33) As of this writing, the new law is in the process of being implemented, and its possible effects on health services and health manpower in Australia will be considered in the final chapter.

Other National Health Care Programs

While the Subsidized Health Benefits Plan is the central pillar of the Australian health care system, it is supplemented by several other organized programs at national and state levels, some of which have been alluded to in the earlier discussion of historical developments. Here we will summarize these principal programs at the national level as they currently operate. These are the Pharmaceutical Benefits Scheme, the Pensioner Medical Service, the Repatriation Department Health Service, and the Nursing Home Benefits Program. These four, as well as certain smaller programs, are financed almost entirely from federal consolidated revenues (we would say "general revenues") and administered by the federal government.

Pharmaceutical Benefits Scheme

After its stormy onset in the 1940's, this program of publicly financed prescribed drugs has settled down as a fully accepted part of the health care system. Unlike the Subsidized Health Benefits (voluntary health insurance) Plan, it covers the entire population. Through gradual widening of the approved list, some 90 percent of all drugs prescribed in the country are included, and the patient, with some exceptions, pays only a flat $1 co-payment, regardless of the cost of the prescription. The exceptions include pensioners, Repatriation beneficiaries (veterans), and some other handicapped or indigent persons who pay nothing. The pharmacist then sends his bill, minus the $1, to the national Department of Health. Regulations control the amount charged by the pharmacist (or "chemist" as he may be called in Australia), based on the wholesale cost of the drug, plus a one-third overhead mark-up and a dispensing fee. There are also relatively detailed regulations restricting certain drugs, such as narcotics or some antibiotics, for the treatment of specified conditions, unless special approval is obtained from the Commonwealth Director of Health. There are also maximum quantities allowable per prescription.

The program covers in-hospital as well as out-of-hospital drug costs. The federal Department of Health pays the hospitals directly, according to a rather complicated formula. For these in-hospital drugs, the patient is not charged the $1 co-payment fee.

Under the Liberal Government, the wholesale price of drugs charged by the manufacturers, many from overseas, was not negotiated very rigorously, and was paid without competitive bidding. This has yielded good relationships with the drug companies, but rather steeply rising costs to the national budget. Between 1961 and 1971, for example, federal expenditures for drugs rose from 49 to 133 million dollars, not counting payments for in-hospital prescriptions.

The local pharmacist, of course, sells many over-the-counter drugs (like aspirin, vitamins, etc.) and, as in America, various cosmetics and sundry products. On prescriptions, he is expected to be alert to the dispensing of safe dosages (in case the physician has made an error) and also on the lookout for possible drug interactions between two or more drugs prescribed for the same patient. If such a hazard is detected, we were informed by a faculty member of a School of Pharmacy that the pharmacist would ordinarily inform the patient, rather than the doctor. If he contacted the doctor, he might be accused of "interference" with medical practice.

Pensioner Medical Service

Pensioners, as noted earlier, include mainly but not solely the aged (over 65 years for men and 60 for women) who pass a means test. For the approximately 62 percent of aged persons who qualify, plus the small number of other beneficiaries, the benefits consist of the services of general medical practitioners (never specialists for ambulatory care) and hospitalization in the public wards of public hospitals. An estimated eight percent of the Australian population are eligible for this service.(34) The general practitioner must charge lower-than-average or "concessional" fees that are submitted to the Commonwealth Department of Health.* Because of the lower fees, the general practitioners have frequently expressed discontent, but with a high volume of 8.2 office visits per pensioner per year, nearly all G.P.s participate in the program and get average annual earnings of about $3000 from it.

The lack of access to specialists on an ambulatory basis means that many pensioners are admitted to the hospital for specialist care which could really be given outside. About one-third of all public hospital admissions are for aged persons (both pensioners and non-eligible aged) who constitute only one-eighth (over age 60) of the population. This has led many to regard the Pensioner Medical Service as giving a second-class quality of care. Nevertheless, unlike the general voluntary health insurance program, the PMS has been subject to quality review by the Commonwealth government; periodically, federal doctors make visits to all participating general practitioners to assess the quality of their work and to discuss problems. There is also in each state a Medical Services Committee, appointed by the federal Minister of Health, which is intended to investigate pensioner complaints against practitioners.

The waiver of a co-payment charge on drugs for pensioners has been mentioned. If a pensioner, however, wishes to have specialist care out-of-hospital or to choose his own doctor within a hospital, he must pay for this himself or enroll in one of the voluntary insurance funds. Relatively few pensioners can afford this, although other old people who are not poor enough to qualify for the PMS are often insured through one of the funds.

Repatriation Commission Benefits

Growing out of World Wars I and II, there has developed in Australia a network of 13 general hospitals (mainly former military facilities) for the treatment of returned or "repatriated" military veterans.(35) Intended originally for those with war-connected disabilities, the scope of eligible persons has gradually widened. The definition of a service-connected disability is very liberal, so that tuberculosis or other disorders that may start years after military service are often attributed to the "intangible effects" of that experience. Also, widows and other dependents of servicemen, whose deaths are accepted as due to war service, are eligible.

Hospitals of the Repatriation Commission are located in all the main cities of Australia, and many are affiliated with medical schools and other training institutions. If an eligible veteran not near a Repatriation hospital needs care, he may be treated in a nearby public hospital, for which the Commission pays. This entirely federal program has a reputation for giving high quality service through its carefully appointed full-time salaried staff.

Nursing Home Benefits

For patients, mostly elderly, with long-term illness Australia, like the United States, has a large number of relatively small nursing homes – about 1200 – in 1971 with 47,000 beds. About one-fourth of the beds are in public facilities operated by state or local governments. Three-fourths are private units, and about three-quarters of these are operated for profit, while the balance are run by religious or charitable bodies. Since 1963, the federal government has paid per diem benefits for all patients in both public and private nursing homes, so long as they have been approved as meeting standards of staffing and physical conditions.(36) These benefits – $3.50 per day plus a supplemental $3.00 for patients requiring intensive nursing care – exceed, it may be noted, the Commonwealth subsidies to general hospitals. The reason is that the great majority of these long-term beds are in private facilities not financed, like hospitals, by the state governments nor covered under the voluntary insurance plans. In these private facilities, most of the costs, therefore, must be met by patient fees.

Over the years, the levels of these federal per diem subsidies to nursing homes have increased (unlike the federal hospital benefits) but still not at a rate commensurate with the rise in costs. Pensioners using private nursing homes (a large proportion of the total) must ordinarily use their cash pension for meeting these costs, but other aged or chronically illl patients must bear the costs from personal or family resources. As in other industrialized countries with an aging population, the problems of institutional care continue to mount and the pressures for greater federal or national funding increase.

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* Since 1973, claims are handled by the National Department of Social Security.

There are other federally supported health programs of smaller scope that need only be mentioned. Services for the mentally ill are mainly a state responsibility, but relatively small federal grants are given to upgrade the quality of mental hospitals. Likewise federal grants go to the states to assist in the anti-tuberculosis campaigns. Federal grants are also made to organizations providing home nursing service, so long as they are non-profit and are supported also by some unit of state or local government. The Disabled Persons Act of 1963 provided for grants to non-profit organizations toward capital costs of construction of sheltered workshops or residential units; in 1967, this was expanded to include personal subsidies for disabled persons in sheltered employment on a graduated scale according to a means test.(37) The National Health and Medical Research Council subsidizes largely biomedical research. (38) Health services research is generally funded by the National Hospitals and Health Services Commission established by the Labor government in 1973.

It is, thus, evident that a great variety of federally subsidized or supported health programs have evolved in Australia since about 1950. Some, like the Pharmaceutical Benefits Scheme or the Pensioner Medical Service, are financed and operated entirely by the federal government. Others, like the basic medical and hospital insurance program or the smaller subsidy schemes just noted, involve a relatively complex combination of federal and local funding sources, in which federal assistance is designed to strengthen state or locally operated activities under either public or private sponsorship.

Many other health services are principally the responsibility of state governments, and these will be considered next.

State Government Health Services

In all six Australian states there are various combinations of agencies responsible for the operation of public hospitals, for the general public health programs, for the mental health services, and for other selected functions. In no two states is the administrative pattern exactly similar, although the movement has clearly been toward coordination of the three major sectors of official health activity. In addition, at the state level are other health-related programs for worker's compensation (for work-related injuries), for protection of school children, and other special objectives. Voluntary health agencies also carry many responsibilities, with assistance from state governments.

State Health Administrative Patterns

Victoria, with its relatively strong conservative tradition, and Western Australia, with its newer frontier quality, are states in which each of the three principal governmental health sectors (public health, hospitals, and mental health) is administered by a separate department, although each of these reports to a single Minister for Health. In South Australia, the public hospitals and mental health services are united in one department, while the public health services are in a separate department, both coming under one Minister. Tasmania has brought together the public health services and the public hospitals under one department's direction, while mental health services are in a separate department — again under a single Minister. Queensland has a unified Department of Health, with subdivisions for the three major and several other minor responsibilities. In New South Wales, Australia's most populous state, the three major functions have also recently been amalgamated — not under a Director-General but under a full-time Health Commission.(39)

There are numerous other specialized functions, like ambulance services, registration of the health professions, sometimes tuberculosis control, sometimes medical research, which may occupy special autonomous positions on the various state organization charts, although they invariably bear legal responsibility to the Minister for Health.

A detailed accounting of all these state governmental health services would be beyond the scope of this report, but certain aspects with special relevance for health manpower may be discussed.

Public Health Services

The variation in the scope of public health responsibilities and their administrative arrangements among the Australian states almost defies generalization. In nearly all the states (except recently in New South Wales), most environmental health protection is a major responsibility of the Department or Division of Public Health. This often includes inspection of housing, radiation hazards, noise abatement efforts, as well as the traditional water and sewage components of sanitation. Epidemiology and control of acute communicable diseases are also basic public health functions in all the six states, along with venereal disease control in most states. In Tasmania, VD clinics are conducted by the public hospitals. Immunization clinics are still run by many local government councils, but they will become a function of state governments eventually. Health education on matters like nutrition, anti-cigarette-smoking campaigns, and drug abuse are further functions in all these jurisdictions.

In most other fields associated with public health agency responsibility in the United States, there are often special arrangements in selected states. In South Australia, for example, the school medical and also dental services come under the wing of the Department of Public Health, but the basic maternal and child health services have long been conducted by a voluntary Mothers and Babies Health Association.(40) This organization, which is heavily subsidized by the state government, employs its own nurses specializing in well-baby care and parental guidance (including offering parent-craft classes), and its clinics see about 80 percent of the newborns in South Australia. In all Australia, families of every income level use infant welfare centers for general health guidance. Immunizations, on the other hand, are given by the personal physician, who is paid for these through the voluntary insurance funds.

Tuberculosis control is another function which in some states is carried out by a separate commission, funded directly through federal grants. This is the practice in Tasmania and Victoria. Ambulance services are also sometimes a function of the Health Department and sometimes, as in New South Wales, Queensland, and Tasmania, the province of a separately directed and funded commission. (In New South Wales, however, they will be taken over by the integrated Health Commission in July 1975.) The non-governmental St. John's Ambulance Association (found in many British Commonwealth nations) plays a supportive role also in most of the states, and carries principal responsibilities in South Australia and Western Australia. The Royal Flying Doctor Service, of which more will be said in the next chapter, is still another important voluntary transport agency, which operates in all the states quite autonomously, although with substantial federal subsidies.

Occupational health service is another field recently developed by several of the state public health agencies. Family planning is occasionally offered as a service in Health Department maternal clinics, but more often by separate Family Planning Associations which receive some federal subsidies. Research, as noted earlier, is a function of the National Health and Medical Research Council, which gives grants to universities and other local entities, and accounted for 68 percent of medical research outlays in Australia in 1968 (the rest coming from state or local private sources). Only in New South Wales is there a well-developed Health Research and Planning Division, attached to the integrated Health Commission, for studies in the field of health service organization. In South Australia, there is a semi-autonomous Medical and Veterinary Science Institute, which – along with a few private pathology laboratories – does all the out-of-hospital clinical laboratory services for doctors in that state.

Under the state Minister of Health, usually in separate bodies, are the various Registration Boards for the health professions, which will be discussed in a later chapter. It is noteworthy that, throughout Australia nearly all *local* public health activities are performed by the state agencies, except for certain sanitation functions performed by local government employees in some states.

It is perhaps the separatism in Australian states of so many traditional public health functions that has led, as we shall see, to new recognition of the need for a "community health nurse," who would combine several traditionally differentiated functions. And this has been further stimulated, perhaps, by the operation in practically all the states of a voluntary though subsidized Royal District Nursing Service, for home care of the chronically ill.

Psychiatric Services

Throughout Australia, the operation of mental hospitals and community mental health clinics is a state responsibility, according to the diverse administrative patterns summarized above. Remarkable, in comparison with the United States, is the fact that the great majority, about 80-90 percent, of psychiatrists are engaged full-time, or nearly so, in these governmental institutions.

In Australia, as in the U.S., since the mid-1950's there has been a steady decline in the census of mental hospitals, as patients – especially senile cases – were discharged. Since 1964, federal grants were given to build up community mental health centers or mental wards attached to community general hospitals.(45) These grants have also been used to establish hostels for the mentally ill, who can get along in the larger society, and for the mentally retarded, staffed by non-medical personnel but accessible to consultation.

Since a great deal of ferment characterizes the training of new types of personnel for mental health service, this field will be more fully discussed in a later chapter.

Public Hospitals

Over-all responsibility for "public hospitals" (in the Australian sense, including both governmental and voluntary non-profit institutions receiving public subsidies) lies with the state governments, under the various administrative arrangements noted above. Since the great majority of general hospital beds in Australia are in such institutions, this is a large responsibility, both financial and operational. Approval of budgets of the public hospitals is required from the state authority, as well as supplemental allocations to make up for any justifiable deficits.(42)

Regulation of the public hospitals is exercised by this direct fiscal control and the promulgation of numerous standards and operating procedures. For private hospitals, the same state agency simply has powers of inspection and licensing. In four of the states this is the Department of Public Health (or its equivalent), but in Victoria it is the Hospitals and Charities Commission and in South Australia, the local Board of Health. Without fiscal sanctions, the influence of this licensing authority is said to be weak, and quite recently – as will be discussed later – Australia has begun to develop a non-governmental quality promotion program, equivalent to America's Joint Commission on the Accreditation of Hospitals.

The internal patterns of hospital administration and medical staff organization will be discussed below, and the supply and distribution of hospital beds, in the next chapter.

Health Regionalization

As Australia has developed, and its separate state health agencies have become more complex, there has arisen in several states a sense of need for regionalization. Every state is geographically large, and the importance of integrating the public health, hospital, mental health, and other services has been perceived as a need for decentralized authority. Since the Labor Government election in 1972, this principle has been particularly promoted.

New South Wales, with its integrated Health Commission, has so far gone the furthest in regionalization developments.(43) The state has been divided into 13 regions – 6 metropolitan (in and around Sydney) and 7 rural. The urban regions have populations of 500,000 to 1,000,000, while the rural have 100,000 to 230,000 people. Within each area, the Regional Director is responsible for all the health sectors – public health, hospitals, and mental health – under broad state-wide standards. An over-all budget is submitted by the Regional Director to the State Health Commission, and once approved it is under his control. Only capital projects exceeding a cost of $40,000 require prior approval of the Commission. All hiring of staff is done at the regional level, except for approval being required if a totally new type or series of personnel is established. Requests for special federal health grants may originate in the region, but require submission through the State Health Commission.

The Western Metropolitan Region was the first to be established in New South Wales in mid-1972.(44) A Regional Health Council of 10 members, representing the principal health service entities in the region, is appointed by the State Minister for Health, with the Regional Director serving as Chairman. Also, there is in this particular region an Advisory Committee of 80 members, set up voluntarily to assist on health service planning. In addition to spokesmen for the hospitals, schools, local government, etc., this Committee has consumer representatives. The specialized personnel in the Regional Health Office staff, such as the Chief Nurse or Sanitary Inspector, may seek technical advice from the N.S.W. Health Commission central office, but all line responsibilities are to the Regional Director. Likewise the staffing of all public hospitals in the region must be approved by the Regional Hospital Consultant, within flexible guidelines from the State office. Many training functions are carried out under the direction of the Regional Health Office staff, and these will be discussed in a later chapter. The Western Metropolitan Region of N.S.W. is of relatively low income and deficient in health manpower and hospital beds, so that enlargement of these resources is seen as a major part of its objectives.

The Northern Metropolitan Region of N.S.W. is, by contrast, relatively prosperous. It is composed mainly of affluent suburbs (population – 850,000) with a generous supply of doctors and nurses. In fact, the chief problem in staffing its public hospitals is recruitment of the house-keeping level of employee: these low-paid workers cannot afford to live in this region and commuting around Sydney is expensive. To carry out program planning, the Regional Director here has appointed technical advisory committees on the principal local health problems such as trauma, cardio-vascular disease, cancer, mental disorders, virus infections, dental disease, etc. These committees are planning programs of health education on safety, exercise and diet to reduce heart disease risks, anti-smoking campaigns, clinics for alcoholism or drug abuse, and so on.

In other states, like South Australia and Queensland, regionalization is just getting under way. South Australia intends to encourage regionalized relationships among hospitals through discriminatory approval of staffing and equipment in relation to a hospital's size and place in the regional hierarchy. Thus, hospitals under 50 beds will have 1.2 personnel per patient, 50-200 beds will have about 1.5 personnel per patient, and hospitals of over 200 beds 3.2 personnel per patient. In Queensland, on the other hand, it is intended that the regionalization plan, dividing the state into 4 to 8 regions, would initially concentrate on public health and community mental health services. Only later would the regions encompass hospitals, which have been customarily subject to centralized control from Brisbane.

Other health related activities at the state governmental level include two forms of compulsory insurance. The Workers' Compensation Acts compel the employer to insure his workers against both wage-loss and medical costs due to work-related injuries.(45) This insurance is carried by authorized private insurance companies supervised by the state agency. Secondly, the Motor Vehicle Third Party Insurance Acts require every car-owner to be insured for personal injury to others, and likewise this insurance is ordinarily carried by commercial companies. In both of these programs, medical care is given in the regular public or private hospitals, with payments made by the insuring company. By reason of this compulsory insurance, a low-income person, who might ordinarily seek care in a public ward (without choice of doctor), may be served in a private bed or in a private hospital, with free choice of the doctor who is paid an insurance fee.

In Australia, as in the United States, a number of problems have resulted from both these types of state law. Under workers' compensation, benefits have averaged only 60 cents on the premium dollar, the rest being consumed by insurance company administration, marketing, and profits. There have been long delays in litigated cases, and rehabilitation of the injured person has often been discouraged. As a result, a National Committee of Inquiry (chaired by Justice A. O. Woodhouse) was set up in early 1973, which in July 1974 recommended change to a consolidated national system of compensation. This would protect everyone financially not only for industrial and motor-vehicle injuries, but for disability due to general sickness as well.(46) The medical care aspects would come under a revised National Health Insurance scheme.

Patterns of Medical Care Delivery

In spite of the variety of *organized* health programs so far discussed, the prevailing pattern for delivering personal medical care in Australia is through individual physicians in private "surgeries" or offices. Most of the organized insurance and related programs are intended mainly to pay fees for this service. General hospital care is less uniform in its delivery patterns, since there are important differences between public and private institutions, and the policies as well as the proportions of these differ among the states. The chief characteristic of delivering ambulatory and hospital care may now be discussed.

Physician's Service

As of 1971, there were about 16,000 doctors in some form of active work in Australia, or a ratio to population of about 1:813. About 65 percent of these are in private practice, earning their income principally from patient fees, and about 35 percent in some form of salaried employment working for a hospital or other agency.(47)

Roughly 40 percent of Australian doctors are general practitioners, compared to about 20 percent in America. This basic differential, as we shall see, has an important bearing on the entire attitude in Australia toward allied health personnel; the G.P., in other words, is an important person in the medical scene. If greater needs are perceived for primary care, the strategy applied is to strengthen his position by back-up staff, rather than to replace him with less fully trained personnel. This is the principal meaning of the "community health center" movement, to be discussed in a later chapter. Attempts are also being made to increase the proportion of G.P.s in the medical profession, and to upgrade their training.

Of the general practitioners, about 40 percent practice alone, about 50 percent in partnerships of 2 to 4, and about 10 percent in medical groups of 5 or more. If one were to apply the American definition of "group practice," however, of "three or more doctors practicing together," the aggregate in such teams would probably come to about 35 percent, with 65 percent in solo or paired arrangements.

Despite this greater current importance of general practice in Australia than in America, the proportion of G.P.s has been declining. Gradually increasing proportions (since figures first became available around 1933) have been entering specialties, either as private practitioners or as salaried personnel mainly in public hospitals or government agencies. Of all salaried doctors (predominantly specialists or in specialty training), over half are engaged in public hospitals (including residents and registrars – see below), about one-fourth are in federal or state government positions, and the balance in teaching, research, or other agency employment.

The largest share of specialists are in surgery, followed by internal medicine, obstetrics-gynecology, anaesthetics, psychiatry, pathology, ophthalmology, and radiology in that order. As in psychiatry, noted earlier, the majority of pathologists and radiologists are in salaried hospital posts. Except for the State of Queensland, however (discussed below), the great majority of practicing specialists – that is, doctors finished with their years of training and qualified in one of the specialty "colleges" – are in private office practice for the larger share of their time. Unlike the prevailing patterns in Europe, and more like the American model, their hospital work – whether in private or public institutions – is done mainly for private patients from whom (either directly or by way of voluntary insurance) they receive fees. For their treatment of public ward patients in public hospitals, they formerly received only a token honorarium or nothing, but in recent years they have come increasingly to receive sessional payments.

Doctors in Australia, as in the United States tend to be very busy. The general practitioner works about 53 hours a week, not counting additional hours that he is "on call" to his patients.(48) He sees about 150 patients a week. The specialist works only slightly less strenuously, although his income is usually higher. The country general practitioner works hardest of all. As we shall see in the next chapter, various steps have been taken to combat the maldistribution between cities and rural areas. Moreover, the general posture of the Australian Medical Association, unlike its American counterpart, has always been to promote an increased output of physicians.

Discussion of doctors' incomes across countries has little meaning, with price levels, cost-of-living, exchange rates, and so on being so different. It may only be pointed out that Australian doctors, compared with lawyers, engineers, or other professionals, earn appreciably higher median incomes. In 1968-69, their average net incomes were 3.72 times average earnings for the nation as a whole. The rate of escalation of their incomes, moreover, was higher than that for other occupational groups over the previous years. Because of the operation of insurance and various other governmental programs, Australiam medical incomes are fairly well insulated from swings of the business cycle. Because of "recommended" fee schedules (even though they are not mandatory) and their influence on reimbursement rates by the insurance funds, doctor's fees in Australia are essentially like "administered prices," not subject to the normal competitive dynamics of the private marketplace.

Dentists in Australia are even more predominantly in private practice than physicians. Their numbers, moreover, are seriously deficient in relation to the demand – about 1:2700 people, with the ratio worsening. Small wonder, as we shall see, that auxiliary dental personnel to treat dental disorders in children are being rapidly trained in Australia, with no significant objections from the private dental profession.

The third principal class of health manpower engaged predominantly in private practice in Australia are the "chemists" or pharmacists. As in the United States, pharmacies offer many items for sale beyond drugs, but with the Pharmaceutical Benefits Scheme, the incomes of the nation's 8400 pharmacists are fairly well assured. Only in some isolated rural communities, too small to support a pharmacist, does the doctor do his own dispensing of drugs.

Optometrists and podiatrists, whose numbers will be considered in the next chapter, are the principal remaining health practitioners in private practice. Since their services have not, until the present, been included under the benefits of the health insurance funds, their ranks have not grown rapidly. Almost all the remainder of health personnel – nurses of many levels, technicians, rehabilitation therapists, social workers, and others – do their work predominantly in organized frameworks, on salaries – mainly in hospitals, but increasingly in health centers for ambulatory care. These organized patterns for delivering health service will be considered below and also in subsequent chapters.

Hospitalization and Related Services

The pattern of delivery of general hospital care in Australia is more diversified among the states, and among different institutions within each state, than probably any other sector of health service. From its beginnings, with the construction of the first hospital by the colonial government in Sydney Cove in 1788, the hospital system has been dominated by institutions built, owned, and operated by the state public authorities. When voluntary bodies, like the churches, began to build some hospitals in the 19th century, they soon came to be dependent on state government grants for the care of the poor and eventually were designated as "public hospitals," even though controlled by private entities. Purely private hospitals, operated for profit, came along later, as well as some non-profit hospitals limited to paying patients.

Types of Hospital and Classes of Bed. Thus today, general hospitals in Australia are customarily classified as:

- Public hospitals
  - State government-owned
  - Voluntary non-profit
- Private hospitals
  - Voluntary non-profit
  - For profit

Within the "public hospitals" of both sponsorships, the beds or wards are of three sub-types: (a) public, (b) intermediate, and (c) private, the implications of which for patient care and financing will be discussed below. Within the "private hospitals," (with rare exceptions in a few of the non-profit category) all beds are private, in the sense that the patient is under the care of a private physician; amenities may vary, however, between single and multiple bed rooms.

To give a sense of proportion among the four classes of general hospitals listed above, see Table 1. Thus, as of 1971, it is clear that the vast majority of beds are in "public hospitals" (82.2 percent) and 90 percent of these are in state-government operated facilities.(49) The relatively small average bed-size of the public-state hospitals is due to a large number of quite small rural public facilities; the urban public hospitals, owned by government, are typically large. The over-all ratio of general hospital beds in 1971 was 6.1 per 1,000 population – exceeding that of the United States (about 4.0 per 1,000) by a wide margin. The average occupancy, not surprisingly, was lower than in America, being 71.0 percent in all public hospitals and 66.6 percent in all private ones. Unlike the American scene, however, the distribution of general hospital beds is actually more favorable in rural areas than in the large cities. In effect, the urbanization movement has proceeded more rapidly than the new bed construction, since the ratio of beds in metropolitan areas is 5.2 per 1,000, compared with 7.6 in non-metropolitan areas.

These figures on hospital beds by institutional sponsorship and location do not tell us, however, about the distribution of *patients* who are "public" or "private." The point is that in all public hospitals, beds are of the three classes noted above. Thus a typical public hospital in New South Wales might maintain 66 percent of its beds for public ward patients, 25 percent for intermediate, and 9 percent for private patients. The public ward patient, in addition to being located in a relatively large multi-bed room, has no choice of his doctor; this physician may be a young resident or registrar in training, or a visiting specialist paid sessional fees by the hospital. The intermediate patient would typically be also located in a relatively large ward, but he is given a few more amenities (e.g. in food service) and is attended by the doctor of his own choice, whom he or his insurance fund pays a fee. The purely private patient is in a private room and is served by his private doctor. It will be recalled that the insurance funds sell their hospital benefits according to these three classes as well.

Table 1. GENERAL HOSPITALS IN AUSTRALIA, BY TYPE OF SPONSORSHIP, NUMBERS AND PERCENTAGE DISTRIBUTION OF BEDS, JUNE 1971.

Sponsorship	Hospitals	Beds	Average Bed-Size	Percentage of Beds
Public-state	707	58,073	82	75.0
Public-voluntary	59	5,558	94	7.2
Private-voluntary	137	7,971	58	10.3
Private-profit	188	5,943	32	7.5
Total	1,091	77,745	71	100.0

Source: Australian Department of Health, *Annual Report of the Director-General of Health 1972-73*. Canberra, 1973, p. 178 ff.

The proportions of public, intermediate, and private patients vary considerably among the states and among public hospitals in the same state. In two states, N.S.W. and Victoria, a means test is applied which permits only patients of low income to make use of public ward care. Thus, there are some public hospitals in these states in which only a minority of the beds are for public ward patients.

Queensland, on the other hand, is the one state that offers public ward hospital care, without any charge to the patient, to *all* residents who wish to use it. There are about 15 Hospital Board Districts, under each of which several public hospitals are operated.(50) While private hospitals exist in Queensland, and there are some private and intermediate beds also in the public hospitals, the proportion of patients (of any income level) using the public ward beds is much higher than in any other Australian state; moreover, the general bed supply – at 7.6 beds per 1,000 – is much higher than the national average.(51) Since no charges are made for public ward care (as they are in all other states, except for pensioners), it is understandable why only 32.5 percent of Queensland patients in public hospitals carried any hospitalization insurance in 1972, compared with 53.0 percent nationally. This strong public hospital program was instituted in Queensland in the early 1940's by a Labor Party government, which continued in power for nearly 30 years; though a much more conservative government was recently elected, the basic system has not been altered.

Allocation of beds in public hospitals in the other states varies widely, but in all of them some charges are made to the occupants of public ward beds, except for pensioners, beneficiaries of the Repatriation Commission, or injured persons covered by worker's compensation or motor vehicle accident insurance. The great majority of patients, outside of Queensland, have voluntary insurance to help in paying for these charges, but it will be recalled that a share must be paid by the patient even if he is insured. Thus the sources of hospital financing are multiple, and in 1971, counting all public and private general hospitals in the nation, it was derived as follows:

	%
State government support	52.9
Federal hospital subsidies	8.7
Federal pharmaceutical benefits	4.3
Federal Repatriation Comm. payments	0.7
Federal tuberculosis payments	0.5
Voluntary insurance fund benefits	22.9
Patient personal payments	8.8
Other sources	1.3
Total	100.0

It is apparent that, counting both state and federal sources, over two-thirds (67.1 percent) of the support of general hospital care in Australian hospitals is derived from government.(52) The share met by the voluntary insurance funds – despite their prominence in the political landscape of the health scene – is surprisingly small; in fact, even the 22.9 percent is an overstatement, since it includes the Special Account for pre-existent chronic conditions in the voluntary funds, supported by federal grants, and the extra assistance given to encourage low income families to enroll in a fund.

Medical Staff Organization. The prevailing pattern of medical staff organization in Australian hospitals is generally more in the American than the British tradition. Aside from young doctors-in-training (interns, residents, and registrars), the full-time salaried physicians are principally limited to pathologists, radiologists, and anaesthetists in public hospitals. Virtually all other specialists in the community are appointed to the visiting medical staffs of the public hospitals, where they may bring their private patients. Until recent years, they were expected to treat the public ward patients without charge, getting only an honorary stipend from the hospital; the current trend, however, is rapidly moving toward sessional fees paid to specialists for this service to the poor and for supervision of the young house physicians.

At the same time, private hospitals in the cities, and both private and public hospitals in rural districts, are fully open to the use of general practitioners as well as qualified specialists. Their medical staff appointment systems are relatively loose. Some urban public hospitals, not affiliated with medical schools, also permit access to their private beds by general practitioners for obstetrical cases or relatively simple cases of other types. In New South Wales, however, private physicians may serve patients in no more than two public hospitals.

In the larger public hospitals of Queensland and Tasmania there are somewhat more appointments of full-time salaried specialists in fields like medicine, surgery, or pediatrics.(53) Such appointments are being encouraged by the present Labor Government. The larger public hospitals of all the states tend to have full-time Medical Superintendents, as well as full-time Hospital Administrators. Private hospitals are typically administered by full-time non-medical Administrators, while sometimes the top staff person is the Matron (Director of Nursing) assisted by a Business Manager.

The super-specialties, like neuro-surgery, renal dialysis, cardio-pulmonary surgery, hematology or nuclear medicine, are found only in the large teaching hospitals and often provided by full-time appointees. Sessional payments in public hospitals are typically regulated by the state authority responsible for public hospitals; they tend to vary with seniority. Younger specialists are appointed on such sessional arrangements for one-year terms, older specialists for 3-year terms. General practitioners who are approved for appointments in public hospitals sometimes bear the title of "Clinical Assistant," being permitted to assist in the management of public ward patients. As will be discussed further in a later chapter, the disciplinary controls (audit, tissue, or therapeutic committees, etc.) commonplace in American hospitals are rarely found in Australian public hospitals, and never in the private ones.

This rather "laissez-faire" policy in Australian hospitals, as we shall see, is beginning to change, but it doubtless results from the influence of the Australian Medical Association and the various specialty colleges, whose philosophy is that their members, having passed the qualifying tests, are beyond the need for any surveillance. It is only in the Repatriation Hospitals and the state psychiatric institutions that fully salaried staffs, in hierarchical supervisory relationships, are found.

Hospital out-patient or casualty (emergency) services are a normal feature of urban public hospitals, and intended mainly for low-income patients. The insurance funds do not pay for these services, which are expected ordinarily to be given in the quarters of private doctors. As in America, however, in spite of the gradually improved ratio of doctors-to-population in recent years, the rising demands for ambulatory service on short notice are not being met by private practitioners and the rate of hospital out-patient service demand has been rising. Patients are charged for this if they can afford to pay. In country hospitals, where one or two general practitioners may constitute the total hospital staff, any patients they are called on to see in an out-patient department are ordinarily charged the same as private patients.

Other institutions for bed-care in Australia are principally nursing homes for the aged and chronically ill. In addition to the 6.1 general hospital beds, there are about 2.3 beds per 1,000 in these long-term facilities, as of 1968.(54) About 32 percent of these beds are under private control. The Federal Nursing Home Benefits, described earlier, help to support all patients in approved nursing homes, and for a majority of the patients – who are on federal pensions – the balance of the charges are met from the pension. The rest of the patients must pay the balance personally or with help from their families. Medical services to nursing home patients are covered by the Pensioner Medical Service or, for higher income patients, privately or through the insurance funds. Standards for such medical services, however, are rather lax.

At the other end of the age-spectrum, the care of sick children is mainly given by general practitioners, and pediatricians tend to be consulted only for complex cases. In spite of the coverage of children for doctor's care by the insurance funds, over 80 percent of infants under one year, it is estimated, are seen periodically in infant welfare centers operated by the state public health agencies in all the states (except South Australia, where the state-subsidized Mothers and Babies Association does most of this work). There are over 2,000 such centers in Australia, attended mainly by specially trained nurses. Babies with significant disease problems are usually referred to a private doctor, but sometimes to a consulting pediatrician of the Health Department.

There are, then the main features of the over-all system of health care in Australia. Other services, of course, are indirectly related to health service, such as the National Health and Medical Research Council under the federal Ministry of Health or the various cash benefit programs – such as maternity allowances, widow's pensions, or unemployment benefits – of the Social Security Ministry. A number of special programs designed to bring medical services to isolated rural areas will be discussed in the next chapter on "Manpower Resources" and certain specially innovative programs – such as community health centers or the recently trained dental therapists – in the chapter on "Manpower Functions." Much has been done to increase the people's access to health service. In the main, however, it can be seen that Australia has been, in terms of medical care, predominantly a nation of free private enterprise, where the mechanisms of both government support and voluntary insurance have operated largely to sustain that pattern.(55) Only in recent years, as we will see in later chapters, have forces come into play to significantly modify this policy.(56)

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Chapter Two

HEALTH MANPOWER RESOURCES

The functioning of any health service system depends, in large measure, on the numbers, types, and distribution of its health manpower. In later chapters we will examine how Australia educates or "produces" its various types of health personnel, new trends in their mode of functioning, and the social controls (regulations and non-statutory influences) over their work. In this chapter we will take a birdseye view of the current numbers and types of health manpower, something about the time-trends, their geographic distribution and efforts to influence it, and a glimpse at their utilization by the population, with associated expenditures.

First, we will consider the oldest of the healing arts – doctors, general and specialized. Second we will review the largest health occupation in numbers – nurses, of different levels. Thirdly, we will look at dentists and other allied dental personnel. Fourth will come a brief glimpse of the wide variety of allied health professions and occupations. The special problems of geographic distribution will be considered next. And finally, we will offer some summary data on health service utilization rates and expenditures.

Medical Doctors

The current overall supply (as of 1971) of something over 16,000 medical doctors in Australia, noted in the previous chapter – or a ratio of about 1 to 813 people – is obviously a crude statement of a crucial health care resource which requires analysis along several dimensions. First we may consider time-trends and geographic distribution.

Trends and Geographic Distribution

The earliest more or less reliable estimate of the Australian doctor supply was a count derived from State Registration Boards in 1929. In this year, when the Australian population was about 6,340,000, there were 5,457 doctors resident in the nation or a ratio of one to 1161 population.(1) Over the last 45 years, both the numbers and ratios have steadily increased. In 1929, the best ratio was in the State of Victoria (1:944) and the poorest in Queensland (1:1634). As New South Wales has increasingly become the most densely populated state, with metropolitan Sydney as the hub of the nation's economy, that state has come to surpass Victoria and today has the highest ratio of doctors.

The steady growth in supply of doctors has been due principally to a continuous expansion of the output of Australian medical schools, although as we shall see, in-migration of foreign medical graduates has in recent years come to play an increasing role.

The most recent estimates of Australia's doctor supply, based not on Registration Board figures, but on the national Census of 1971, actually give even higher numbers and proportions for the present time. The Report of the Committee on Medical Schools (Peter Karmel, Chairman) to the Australian Universities Commission in July 1973 concluded that as of mid-1972 there were about 17,900 doctors in the nation or a ratio of one to 792 persons.(2) By states and territories the doctor-population ratios were as follows:

State or Territory	Doctor/Pop'n Ratio
New South Wales	1:751
Victoria	1:785
South Australia	1:787
Tasmania	1:849
Western Australia	1:885
Queensland	1:886
Northern Territory	1:1028
Australian Capital Territory	1:554
Australia	1:792

Examining trends over the years 1933 to 1971, we find that the annual rate of increase in these ratios (reflecting the rate at which the doctor supply exceeded the rate of general population growth) was at about 1.5 percent per year. The highest of these growth rates was in Tasmania (1.9 percent) and the lowest in Victoria (1.2 percent). These differentials may not be too meaningful, however, since Tasmania – with its isolated and idyllic setting – is a place to which many doctors appear to go for retirement and hence are not in fully active medical practice; this is not so true of Victoria. This differentiation of active and inactive health personnel is, indeed, a problem in tabulations from Registration Boards in all states.

Urban-rural Differences. The listing above suggests greater ratios of doctors in the more urbanized states, but a more accurate idea is conveyed by the data on doctors in metropolitan compared with "country" areas. In the Australian context, "metropolitan areas" are the capital cities in each state or territory and the immediately adjacent population. "Country areas," therefore, may contain some mid-sized towns of up to 30,000 population or so, although the typical country town would be under 5,000. By this breakdown the doctor-population ratio in the nation's metropolitan areas in 1971 was one to 628 persons, while it was one to 1304 persons – or less than half the level – in the country areas. The most serious problem is in the very small "one-doctor" or "two-doctor towns," of which there are hundreds in Australia. A study by the Australian Medical Association showed that in country towns which in 1947 had three or more doctors, over the years to 1961 there was actually a slight improvement, while in the 1-2 doctor towns, the ratios had grown worse.(3) As we shall discuss later, a number of strategies are being directed to this problem of getting more doctors to rural regions.

As might be expected, furthermore, the doctors in country towns are predominantly general practitioners. Specialists are almost entirely confined to the state capitals and some of the larger secondary cities.

Types of Doctors

As in all industrialized countries, the trend in Australia has been for an increasing proportion of doctors to become specialists, as compared with general practitioners. This trend has associated *effects* on the proportion of doctors in salaried positions, since a greater share of specialists than of G.P.s are working in both full-time and part-time salaried posts.

Specialization. The different schedules of post-graduate study and qualification, through various "colleges" for the specialties, will be considered elsewhere. Here we may note that, while the percentage of total doctors in specialty practice is evidently still much lower than in the United States, its effects in reducing the share in general practice has been a cause for rising concern in Australia.

Considering only physicians in private practice, in 1972 about 33 percent were specialists and 67 percent were generalists. (The United States proportions would be roughly the reverse.) Nevertheless, the fact that these proportions have caused concern both in the profession and in government is a reflection of the enormous importance attached to general practice and the consequent approaches toward over-all manpower policies, which will be discussed.

There are subtleties in definition of terms, but the conventional Australian statistics analyze a doctor's mode of practice in terms of both his specialty status and scheme of remuneration.(4) Thus in 1972, the 17,972 active medical doctors were distributed as follows:

Type of Doctor	Percentage in:		
	Private Practice	Salaried Posts	Total
Gen. Practitioner	39.8	-	39.8
Specialist	20.5	7.9	28.4
Other	-	31.8	31.8
Total	60.3	39.7	100.0

As a percentage of *total* doctors, it is evident that general practitioners are only about 40 percent, but specialists decline to 28 percent, since nearly 32 percent of doctors are engaged in "other" activities on salary, which must include public health, medical administration, teaching, research, etc. This latter category is presumably not available for day-to-day patient care.

Among the specialties, data are available only for 1966, when the distribution, in descending order was as follows:(5)

Specialty	Number
General surgery	639
General medicine	457
Gynecology	377
Anaesthetics	334
Other sub-specialties*	321
Psychiatry	299
Pathology	284
Ophthalmology	263
Radiology	258
Ear, nose, and throat	165
Orthopedics	140
Pediatrics	135
Dermatology	133
All specialties	3,802

*Includes: urology, cardiology, allergy, neurosurgery, rheumatology, chest diseases, and problems of sterility.

Over the previous 5-year span (back to 1961), the most rapidly expanding specialties were psychiatry, pathology, and anaesthetics, while the slowest growing ones were ophthalmology, medicine, and dermatology.

The numbers of doctors duly qualified as specialists is controlled by the various "colleges" and "royal colleges" of the several specialties, since these bodies set the standards and conduct the examinations. The rate of passing these examinations is quite variable; for pediatrics it is, for example, said to be very low (about 20 percent) — which may explain the small numbers in this field. It is also relevant that the great bulk of medical care for children in Australia is done by general practitioners, with the pediatrician usually called upon only as a consultant. Well-baby care, moreover, is done mainly by nurses, as noted in Chapter One.

Specialty qualifications are usually expected in public hospitals of metropolitan cities, but not always. Surgery, for example, is estimated to be done by fellows of the Royal College of Surgeons in 80 percent of the cases in metropolitan centers, but only in about 50 percent in "country hospitals." Still the operations done by non-qualified doctors are said to be only relatively simple ones, such as appendectomies, hernial repairs or hemorrhoidectomies.

General Practice. In spite of the high percentage of general practitioners (relative to the U.S.A.) among all doctors in private practice, noted above, the proportion has been slowly declining. While it was 67.2 percent in 1966, it had been 68.2 percent in 1961; as a percentage of *total* doctors (including those not in clinical practice), the percentage declined from 47.5 to 44.0 percent.(6) As a ratio to population, G.P.s declined from one to 1873 persons in 1961 to a level of one to 1916 in 1969. Small as this rate of decline appears, it has generated a whole series of countervailing movements, which will be discussed in a later chapter. In large part perhaps, these movements have been designed to upgrade the quality as well as the quantity of G.P.s. Of the 7000 general practitioners in private practice in 1971, only about 42 percent had met the qualifications for membership in the Royal College of General Practice (see Chapter Five).

Group medical practice, discussed in Chapter One, is somewhat more common among general practitioners than among specialists; this is in striking contrast to the American situation, but much more similar to the British.

Women Doctors. As a proportion of the total, women doctors have been steadily increasing in Australia. They increased from 6.2 percent (300) in 1933 to 13.1 percent (2100) in 1971.(7) Judging from current enrollment policies in the medical schools, this upward trend will continue. In 1974 more than 33 percent of the students in the nine Australian medical schools were women, according to unpublished data of the Royal Australian College of General Practice.

About the same proportion of both female and male doctors are in general practice, but somewhat fewer women are in private specialty practice and somewhat more in other salaried employment. As discussed in Chapter Four, one of the important objectives of the continuing education program of the Royal College of General Practice is to provide refresher courses for women doctors whose family obligations have led to their withdrawal from practice for some years.

The common assumption that there is more "wastage" of working years among women doctors, because of child-rearing and family responsibilities, is currently borne out in Australia. At the same time, recent surveys have shown that the proportion of "wastage" – in terms of hours per week in active practice – is actually rising for male doctors and is declining for female.(8) In other words, if current trends continue, the over-all hours of medical work which society derives from education of men and of women in medicine will eventually become about equal.

Foreign Medical Graduates. The in-migration of doctors, medically trained in other countries, has been a feature of Australian medical manpower for many years. It has not, however, been a contentious issue, as it has become in the United States. The reason perhaps may be gathered from the following tabulation which shows the country of medical graduation of the 17,972 doctors registered in Australia in 1972:(9)

	Percentage
Australia	75.6
United Kingdom	11.2
Ireland, New Zealand	2.6
Asia	6.7
Other	3.9
All countries	100.0

In other words, although about three-fourths of the total were from Australian medical schools, 14 percent of the remainder were from culturally similar British Commonwealth countries (United Kingdom, Ireland, and New Zealand). Moreover, many of those listed from Asia were trained in Singapore or certain schools of India, where the British tradition shaped the medical curriculum. By contrast, the vast bulk of foreign medical graduates licensed in America each year come from the Philippines, Iran, and other developing countries, where educational standards are admittedly much below those of the United States.

Another feature of the foreign graduate question in Australia is the interplay of out-migration and in-migration each year. Many young Australians feel "isolated" from other economically advanced and culturally similar nations of the world in Europe and North America, and therefore sizeable numbers depart each year – either temporarily or permanently. The trend of departures has been generally upward. Thus, in 1962, when 172 foreign-trained doctors immigrated to Australia, 55 Australian residents (about one-third of the entries) departed; in 1972 when 365 foreign graduates entered, 186 residents (or over half) departed.(10) Thus, Australian medical leaders feel justified in welcoming the in-migrants not only because of their relatively large out-migration but also (as explained earlier) the small degree of their "brain-draining" the less fortunate nations.

Nevertheless, the long-term policy in Australia, as we shall see, is to turn out more Australian graduates by increasing the number of medical schools (currently nine for 13,000,000 – a much higher ratio than the 110 schools for 210,000,000 population in the United States) and to expand the enrollment of all schools. Contributing to this decision is the fact that in 1968, some 8.3 percent of Australian medical school enrollees were from overseas (mainly Hong Kong, Malaysia, and Singapore), with intentions of most to return to their homelands.(11) Indeed, such return was formerly required by Australia, although it is no longer.

Mode of Practice

While the majority of Australian doctors are in private clinical practice, the proportion that are in salaried positions – clinical or other – has been steadily rising. In 1933 private practice occupied 85 percent and salaried positions 15 percent; these proportions have gradually changed to a level of 60 percent in private practice and 40 percent salaried in 1972.(12) As R.B. Scotton analyzed the trend some years ago, this is due not only to the increasing number of young doctors undergoing specialty training in public hospitals (as residents and registrars), but also to the increased employment of fully trained doctors in federal and state government positions, in teaching and research, in voluntary service agencies (like the Royal Flying Doctor Service), and even in private industry.(13)

If one were to count the doctors engaged in private group practices, on salaries, the proportion in salaried work would be even higher. The national Census of 1971, for example, which tabulated 59.7 percent of doctors as being in "private practice," found 1711 of these practitioners who described themselves as "employees" of other private doctors.(14) It would appear, therefore, that in the near future the majority of Australian doctors may be working on a salaried, rather than a fee-for-service remunerative basis.

Workload. There is no question about the long working hours of Australian doctors. In 1972, an Australian Medical Association survey found the average working week to be 63.5 hours for general practitioners and 59 hours for specialists, although these figures included "hours on call."(15) Evidently, over recent years, the "productivity" of the Australian doctor has increased —partly perhaps from longer hours of work and partly from seeing more patients per hour. General practitioners, according to data from health insurance claims and other programmatic sources, saw 101 patients per week in 1956-66 and 123 in 1971-72.

As in the United States, the proportion of these patient-contacts, occurring as home visits has been gradually declining; still, a home-call rate of 27 percent in the Pensioner Medical Service in 1971-72 is undoubtedly higher than the comparable figure in the U.S. Medicare program for the aged. As one sees also in Great Britain, the Australian general practitioner still regards some home visits as an important part of his relationship to patients.

Retirement of doctors before age 65 years is rare. In the decade 1961-1971, it averaged only 1.0 percent per year, being somewhat higher for women.

Incomes. As noted in the previous chapter, doctors enjoy the highest incomes of any occupational group in Australia. Within the profession, certain differentials are of interest. In general, private practitioners earn more than salaried doctors, although the differential declines with seniority. Within private practice, doctors in partnerships or groups earn somewhat more than solo practitioners.(16)

As between general practitioners and specialists, the latter earn nore, although this does not become so until after about age 35 years. This appears true in all modes of practice, but the differential – according to a survey in Victoria – is somewhat less in group than in solo practice.(17)

All in all, the supply of Australian physicians as a whole is relatively high, in comparison with other developed countries, and the ratio to population is improving every year. All the main cities of the nation now have medical schools, and even more than the current nine are under consideration. The principal problem, as viewed by the Karmel Committee (Report . . . on Medical Schools to the Australian Universities Commission) is one of geographic maldistribution. Even the distribution among types of specialty is not extremely divergent from social needs, in that there is a relatively high proportion of general practitioners (though slowly declining) to give primary care – a serious current deficiency in the U.S.A. – and the chief need is perhaps an up-grading of the status and quality of their work.(18) As we shall see, there is widespread recognition of this issue and the Australian Medical Association, along with the government and the universities, are directing much attention to it.(19)

Nurses and Nursing Personnel

Nurses, at their several technical levels, constitute the largest personnel sector of the health field in Australia, as in the United States. Also as in America, in spite of a very short working career for the average nurse, at any one time there is a substantial number of young women actively engaged in the field, mainly in hospitals.

Numbers

Because of the difficulty in determining the current count of *active* nurses (as distinguished from those listed on the State Registries), principal reliance must be placed on national Bureau of the Census counts. The latest available to us was for 1966, when there were 77,237 professional-level nurses, including about 14,500 students in hospital training. This would mean about 62,700 professional nurses in active practice, or roughly a ratio of nearly four nurses for each doctor (which compares to about 2.3 per doctor in the United States). In addition, the Census reports 24,288 hospital attendants and nursing aides – auxiliary personnel variously called "assistant nurses," "enrolled nurses," or by other terms in the several states. The report for Australia in the 1971 edition of the World Health Organization's *World Health Situation* permits some additional inferences on nursing resources.(20) In summary, the data come out as follows (for the 1966-68 period):

Professional nurses	62,645
Professional nursing students	14,592
Auxiliary nurses	20,512
Auxiliary nursing students	3,776
Nurse-midwife students	925
Total	102,450

The midwife-students shown in the above list (getting training in 53 schools during 1967-68) are all graduate professional nurses taking, in the British tradition, an additional year of training in midwifery. In the count of "professional nurses," there are some persons undertaking further training in pediatric nursing, in surgical operating theatre work, or in other "post-basic" fields. For each of these additional periods of about one year, the professional nurse receives a certificate, and may be described, therefore, as a "double-certificated" or "triple-certificated" nurse. These programs are described in Chapter Four on "Education." One study reported as many as 13 categories of health workers in nursing – eight specialties of the professional nurse and five types of auxiliaries (nursing assistants, attendants, cadets, nursing technicians, and orderlies – usually male).(21)

Wastage of Nurses

Because of the short working life and, therefore, high turnover of Australian nurses, a great deal of attention has been given to finding solutions to what has been defined as "wastage of nurses."

A major study of a national sample of over 6500 nurses graduated during 1957-60 was conducted in 1964. Over this 4-year period it found that 54 percent of the nurses trained dropped out of work predominantly for reasons of marriage and family responsibilities. Judging by the apparent rate of continued departures, the study estimated that by 1971 the 10-year loss rate would run 60 percent.(22) In other words, for each 1000 nurses graduated it was estimated that 600 would stop working within 10 years. Only a very small percentage (under 5) of the loss was found to be due to departure overseas.

While 80 percent of nurses attributed their dropping out of work principally to family reasons, other factors were said to be job dissatisfaction, inadequate salaries, and difficult hours -- whether they were single or married. The judgment of the surveyors was that these latter factors probably played a larger role than was articulated in the response to a mailed questionnaire.

Enrolled Nurses

As noted above, auxiliary nurses, trained for less than the standard post-secondary school hospital diploma course of three years – usually one year, but soon to be two – are known by different terms among the Australian states. Recently the preferred term has become "enrolled nurse," since graduates of these training programs are enrolled in a State Registry, equivalent to the licensed practical or vocational nurse in the United States. As a ratio to professionally registered nurses, back in 1961 these were only one to 3.0 R.N.'s in Australia, compared to one to 1.2 in the United States.(23) Since then, however, the output of enrolled nurses has obviously increased.

An unpublished report in 1973 showed nearly 20,000 (19,931) enrolled nurses listed with the State Registration Boards, although the 1971 Census had yielded a count of 12,413.(24) In addition, there were about 3500 enrolled nurses or nurse aides undergoing training at the time. Judging from the views of Australian nursing leaders, an important cause or the wastage in professional nurses is their frustration from being obligated to do domestic and clerical types of work (33 percent of their time, according to one study) that could be done by these nursing auxiliaries, if they were available in greater numbers.(25)

The prevailing sense of a serious nurse shortage in Australia is being met by actions in the sphere of education, discussed in Chapter Four, and in the definition of their scope of functions, discussed in Chapter Three. A propos of the setting of nurse education in hospitals, it is argued that after completing their three years of essentially apprenticeship training, many young women feel they have had enough of it, and do not hesitate to leave in a year or two; on the other hand, training in a college setting would give the new graduate a sense of eagerness to apply what she has learned in the classroom and, it is claimed, she would therefore stay longer on the job. (The validity of this argument, of course, remains to be tested in Australia.) In addition, hospitals and other agencies are attempting to attract inactive nurses back to work by offering part-time employment and also child-care services for the small children of working nurses.

While the vast majority of both enrolled and professional nurses in Australia (90 percent by one estimate) are employed in hospitals, it is apparent that a growing minority are coming to be engaged in ambulatory care health facilities, in industries, in schools, in home nursing agencies, and other such places where the nurse is serving people outside of hospital beds.

Dentists and Dental Personnel

Relative to the United States and many industrialized countries, Australia's supply of dentists falls far short of meeting the demand for dental care, let alone the need. As a result, there has been much less of the resistance seen elsewhere to the training of ancillary dental personnel, who would not only assist the dentist but actually replace him in treating dental disorders in children. (This is quite aside from the appropriateness of such personnel, discussed in Chapter Three.)

Dentists

According to estimates of the Australian Dental Association there were in 1971 some 4,125 dentists actively engaged in their profession and distributed as follows throughout the nation:(26)

	Number
New South Wales	1528
Victoria	1018
Queensland	692
South Australia	349
Western Australia	372
Tasmania	85
Australian Capital Territory	57
Northern Territory	24
Total	4125

For the approximate 12,400,000 population at the time, this meant a ratio of one dentist to about 3,000 persons, which is almost exactly half of the United States ratio of about one to 1500.

Tabulations, made slightly more recently (1972-73) by the federal Department of Health, gave higher figures and also breakdowns in the types of work and employment of the nation's supply of dentists.(27) Considering active (both self-employed and employed by agencies) and inactive in Australia, the total was 5226 dentists, distributed as shown in Table 2.

Thus, about 74 percent of Australia's active dentists are self-employed and in private practice and 26 percent are employed by others, principally government agencies. The greatest portion of government dentists are in school health services. The proportion of dental specialists is notably low. The maldistribution of dentists between the metropolitan and country areas is somewhat more extreme than that of physicians.

Unlike any other major occupational group in the health field of Australia, the ratio of dentists to population has been worsening. Compared with the approximate 1:3000 ratio in 1972, it had been 1:2600 in 1963 and 1:2300 in 1954.(28) This grossly visible trend is evidently a result of insufficient output of the dental schools and only a very small in-migration, in relation to the loss of dentists each year from retirement (often early), departure, or death.

Australia has tackled the problem of dental needs, especially in children, through a mounting campaign to fluoridate public water supplies. In 1972, some 80 percent of the population in New South Wales were getting fluoridated water, over 50 percent in three other states, though only 10 percent or less in Victoria and Queensland. At the same time, there has been an enthusiastic adoption of the pattern of the New Zealand "dental nurse" for work with school children. The rapid

Table 2. DENTISTS IN AUSTRALIA, BY EMPLOYMENT STATUS AND TYPE OF PRACTICE, 1972-73.

Self-employed dentists:		
General dental practice		
Solo	2306	
Partnership	734	
Sub-total		3040
Specialist practice		
Solo	113	
Partnership	65	
Sub-total		178
All self-employed		3218
Employed dentists:		
In private practices	328	
in government:		
Armed services	112	
Commonwealth government	34	
State governments	486	
Local governments	4	
Universities	130	
Private industry and other	47	
All employed		1142
Total active dentists		4360
Inactive dentists:		
Retired	358	
Overseas or in other states	483	
Other inactive	25	
Total inactive dentists		866
All dentists (active and inactive)		5226

expansion of schools for their training, discussed elsewhere, has led to a steady increase of what Australia usually calls "dental therapists."

Dental Therapists and Other Dental Personnel

The dental therapist, whose work covers virtually complete dental care for children, is invariably a young woman. The first such dental health workers were imported by one or two states, on a trial basis, from New Zealand. Since Australia's own programs of training are so new, the numbers now available are very small. As of 1973, three schools were in operation (in Adelaide, Hobart, and Perth), and their outputs were as follows:

	Number
Training completed in 1971	29
Training completed in 1972	44
In training in 1973	
First year	51
Second year	44
Total:	168

Thus, by 1975, if there is no attrition of these first four graduating classes, there will be 168 dental therapists in the nation, trained in Australia.

The professional working life of dental nurses in New Zealand has been relatively short, as it is for registered nurses, which has raised questions about the cost-effectiveness of this whole approach, as compared to that of training more dentists – at appreciably higher cost but with longer years of service. Australia is going to attempt to set conditions of work and salaries which will keep dental therapists at work for more years; this question will be discussed later. The current plans of the federal government are to finance schools which will eventually turn out 600 dental therapists a year, toward a goal of about 4,000 for the nation. The hope would be to staff about 3,000 school dental clinics, plus a number of mobile units to serve smaller schools.

Other Dental Personnel. The "dental chairside assistant" has long been used by private dentists in Australia, and special training courses (usually part-time for one year) have been established in every state. Their total numbers are not known, but the number of graduates of training programs in 1972 was 610; during 1973, 771 were engaged in the training programs.(29) If every active dentist had one such assistant and some had two, one might estimate about 5,000 dental chairside assistants in the nation.

Currently Australia has no dental hygienists in the American sense, except those trained in the armed services for their own purposes. South Australia, however, is starting a one-year training course for dental hygienists, and there is discussion in Tasmania of authorizing such personnel to aid the dentist in private practice.

The "dental technician" or "dental mechanic" is responsible for the technical construction of dental prostheses. Here again, we do not know the total supply in Australia, except that in 1972 about 58 such technicians had completed training programs at the schools which exist in every state. Since the courses, usually part-time, last four or five years, there were 248 in various stages of their training in that year.(30) This work is usually done by men, and the years of active work for each are generally greater than for female dental auxiliaries.

Other Allied Health Professions

Just a few words need be said about the available supplies of other allied health professions or occupations in Australia.

Pharmacists

The 1966 Australian Census enumerated 8,374 pharmacists, the great majority working in retail stores. Yet in a tabulation from the State Registration Boards in 1972, about 13,000 were estimated by the federal Department of Health — or the remarkably high ratio of about one per 1,000 persons. (The 1972 ratio in the United States was 1:1600.) If this large supply figure is correct, it may reflect the effects of the Pharmaceutical Benefits Act. There is no question about the high rate of utilization of prescribed, as well as over-the-counter, drugs in Australia (see below), so that pharmacy is probably a relatively lucrative profession.

Nevertheless, unlike any other health field, the view is frequently expressed that Australia has an over-supply of pharmacists and enrollment in the pharmacy schools should be reduced. It is advocated that more positions should be sought by pharmacists in the pharmaceutical industry, not only in research, but also in manufacturing methods, in sales, and other aspects.(32) Another view is to modify the functions of the retail pharmacist from that of a tradesman, which occupies so much of his time, to that of an adviser to the population on drug use; all drugs, furthermore, should be sold only by pharmacies (and not by food and other stores which can sell over-the-counter products).(33) In New South Wales, the Pharmacy Guild has promoted the mergers of some 40 drugstores, as a step toward giving the pharmacist a shorter work day and also reducing the degree of competition.

Rehabilitation Therapists

In 1973, an unofficial survey enumerated 1180 active physiotherapists in Australia — all but 150 of them being women — and another 463 who were inactive.(34) The national professional society, the Australian Physiotherapy Association, however, claims a membership of 2500, so that there may be larger numbers inactive or overseas. The 1966 census enumerated 1486 physiotherapists who said they were actively working. With the enlarging geriatric problem in Australia, an increased number of physiotherapists is being widely advocated.

Occupational therapists, while originally prepared jointly with physiotherapists in one state, are in fact taking a quite different educational path and setting different functional goals in Australia, as in the United States. Increasingly, they are seeing their role as akin to social work and psychology, in dealing with the emotional and motivational problems of persons with severe physical and mental disorders. Their numbers are relatively small. An unofficial survey in 1973 found 335 active O.T.s in Australia, all but eight of whom were women.(35) A movement is under way to increase the supply of these rehabilitation personnel.

Speech therapists are the third of the major types of rehabilitation therapists. Only 124 were found to be actively working in the unofficial survey of 1973, of whom all but 9 were women.(37) Here again the needs are considered to be much greater, with the Australian College of Speech Therapists estimating that by about 1980 some 1500 will be required to meet the needs.

While a small number of all three forms of rehabilitation therapists are in private practice, over 90 percent are employed in hospitals, government agencies, or in other organized frameworks.

Diagnostic Technicians

The trained technician or technologist for laboratory work in Australia is known generally as a "medical technologist." Working in laboratories, typically under the direction of a pathologist, he or she carries out chemical, bacteriological, and related diagnostic procedures. In September 1973, the membership of the Australian Institute of Medical Laboratory Techologists was about 1600, of whom 80 percent worked in government hospitals, health departments, and universities; the rest were in private pathology laboratories.(38)

Radiographers or x-ray technicians are somewhat fewer than laboratory technicians. Based on the membership of the Australasian Institute of Radiography (which contains technical personnel engaged in radiotherapy as well as diagnostic radiography), there were in 1974 an estimated 1200 radiographers in Australia. The proportion of men in this field, 44 percent, is higher than in the other auxiliary professions.

Optometrists

Correction of refractive errors of vision is done in Australia, as in the United States, both by medical ophthalmologists and by optometrists. The number of optometrists registered in March 1974 was 960, compared with 418 ophthalmologists whose functions, of course, include much work beyond refractions. It is probable, therefore, that most of the refractive vision care in Australia is done by optometrists.(39) It is estimated that about 75 percent of optometrists are also engaged, with other personnel, in lens-making.

The ratio of optometrists to population is about 1:14,030, compared to 1:9870 in the United States and 1:9120 in the United Kingdom. Professional leaders, therefore, are calling for an increased output of optometrists, pointing to the recommended goal of a ratio of 1:8000 by the American Optometric Association.(40)

Unlike the other classes of personnel discussed in this section, the vast majority of optometrists are engaged in private practice.

The distribution of optometrists among the Australian states, and between urban and rural districts, is remarkably balanced, in relation to the distribution of population. The proportion of women entrants to the field is rising markedly. As the Australian population becomes increasingly educated and literate, the need for optometrists, it is estimated, will rise and this demands a heightened output of optometry graduates if future needs are to be met.

Podiatrists (Chiropodists)

For non-medical care of superficial foot conditions, Australia has a relatively small number of chiropodists, who will be called "podiatrists" when the registration laws are amended. The 1971 Census enumerated 867 such practitioners, although the Australian Chiropody Association represented about 1200 registered members (of whom about 20 percent were believed to be only partially active) in 1973.(41)

The vast majority of podiatrists are in private practice, as in the United States. Unlike America, however, more than three-quarters are women. Patients come to podiatrists either directly or by referral from other health practitioners, but as of 1974 this service was not covered by the National Health Benefits Act. Since this will change under the new National Health Insurance legislation, one may expect that the output of podiatrists will increase; also perhaps larger proportions of men will find it attractive to enter the field.

Medical Social Workers

As Australian health leadership has become more sensitive to the varied social problems of new migrants and other disadvantaged persons, the need for a greater output of medical social workers (previously called "almoners" in the British tradition) has been recognized. Their value in hospitals and Health Departments, especially in helping to deal with aged patients, is coming to be increasingly appreciated.

A national count of their numbers was not available, particularly insofar as medical social workers are to be differentiated from social workers in general. In Queensland, however, there was a count in 1974 of 113 medical social worker positions in hospitals and Health Departments alone (although about 15 of these posts were unfilled), plus about 27 social work trainees or cadets as support staff.(41) Victoria tabulated 679 social workers of all types in 1973.(42) With the development of mental health centers, aside from psychiatric hospitals, the need for medically or psychiatrically oriented social workers will also escalate. Even in an occasional private medical practice, the value of a social worker to extend the effectiveness of a general medical practitioner has been reported.(43)

Paraprofessional Mental Health Workers. With the increased interest in out-of-hospital psychiatric services in Australia, and the relative shortage of trained social workers, a variety of paraprofessional mental health aides have been developing. This category does not include the trained clinical psychologist, of whom 340 were estimated to be doing health work (10 percent in private practice) and about 580 giving counselling services in educational institutions in 1970.(44) In South Australia and Victoria, however – perhaps elsewhere, mature men and women, without formal academic qualifications, have been trained to give mental health counselling services in community health centers and elsewhere. Some of these workers are volunteers, others are salaried. Some work on telephone "life line" services to assist persons faced with varied emotional crises.

Health Service Administrators

In Australia, as in the United States, the field of health service administration is difficult to define because it concerns functions in such a diverse variety of settings. A large proportion of the high administrative positions in government agencies and in major hospitals are held by physicians who have usually had no formal training in administration, although some have.

Perhaps the most clearly identifiable manpower category in this field is the Hospital Administrator and, as we shall see in a later chapter, a School of Health Administration has been established at the University of New South Wales for formal training in this work. The Australian Institute of Hospital Administrators had a membership of 440 in 1973, the largest number (195) coming from Victoria. Quite separate is the Australian College of Medical Administrators, which in 1973 had 275 members, all physicians.(45)

Below the level of "Administrator" in the managerial hierarchy of hospitals and other health organizations is a diversity of clerical personnel with varied responsibilities. In large part, the present complement of Hospital Administrators in Australia has risen from the ranks of these clerical personnel – a fact which has been criticized as implying an excessively narrow scope for the role of these Administrators.(46)

The sections above are obviously far from complete in presenting the total health manpower resources of Australia. No mention has been made of chiropractors or other medical cultists who are found in small numbers. Auxiliaries in the laboratory or pharmacy or in various sectors of the hospital have not been enumerated. Yet the data presented are drawn from the available sources in Australia and, as of the present, these are less than adequate. Only now, under the new Labor Government, is Australia embarking on a program of national health manpower planning, as part of what will be an attempt to assemble relatively comprehensive information on the nation's total resources in each health discipline, the trends, and expected future needs.

Until this information is available, Australian health leaders are hesitant to indicate desirable or optimal ratios of personnel, of the several types, to population. Attempts to forecast optimal ratios, as did the Melbourne Medical Postgraduate Committee in 1973, have been viewed skeptically for lack of adequate data and a sound basis for making estimates.(47) There is much consciousness that the numbers required in any field will depend on the patterns of health service organization of the future, as well as on the rates of population growth, utilization rates, and other factors. In general, there is a pervading sense of "shortages" in most health fields, as positions — widely advertised by health agencies — remain unfilled. Physicians, dentists, nurses, and others are typically busy people. As we shall discuss in other chapters, ways are continuously being sought not only to increase their numbers but also to enhance their efficiency or productivity within current supplies. One aspect of this problem of supply, requiring special discussion, is the variety of measures being undertaken to improve the geographic distribution of health personnel in Australia.

Actions to Improve Geographic Distribution

As in virtually all countries, Australia's health manpower, especially physicians and dentists, is very unevenly distributed between the metropolitan and country areas. A review of specific measures to cope with this problem, so that health services would become more accessible to rural people, is important.

Flying Doctor Service

Because of its uniquely Australian character and its early origins, the Royal Flying Doctor Service should be noted first. With the continent's vast stretches of thinly settled territories, transportation of doctors to isolated families by air was a natural solution soon after the airplane was invented.

The earliest action was taken in the 1920's by voluntary societies; a few doctors and airplanes were stationed at strategic points from which they could receive calls for help by radio. Gradually these evolved into the Royal Flying Doctor Service, with seven posts staffed by radio operators, pilots, other aviation personnel, and doctors. These are supplemented by "radio control stations" which receive and relay messages from hundreds of "outback stations" equipped with "radio transceivers" (i.e., instruments capable of both transmission and receipt of messages). As the service has developed, some of the outback stations have also become equipped with medicine chests and staffed with trained personnel, so that much of the service is rendered by two-way radio communication (questions posed from the outback and instructions on medical care transmitted in response), rather than actual transport of the doctor.(48) In serious cases, of course, the doctor flies to the scene and/or the patient is transported to a hospital. Only about 25 doctors are currently engaged in this work full-time.

In 1972, there were some 2500 outback stations served by the doctor-and-aircraft posts of the Royal Flying Doctor Service. In that year 21 airplanes flew 1,600,000 miles and evacuated 4,219 patients. Nearly 85,000 doctor consultations were handled by flying doctors, either in regularly scheduled rural clinics or on an emergency basis. The cost in recent times has been about $1,500,000 per year, with 58 percent of this being met by federal and state government subsidies and 42 percent by philanthropic donations plus charges collected from patients who use the service. Administratively there is a separate Royal Flying Doctor Service organization, with a governing council, in the five states covered, and a national headquarters and nation-wide communication center maintained at the town of Broken Hill in central New South Wales.

In addition to this characteristically Australian voluntary program, heavily subsidized by government, the federal government operates its own Aerial Medical Service in the large Northern Territory. This is done in conjunction with "bush nurses" discussed below. Beyond this, a number of states — New South Wales, Queensland, and Victoria — operate aerial ambulance services (sometimes using helicopters) to transport patients from country homes or hospitals to larger urban medical centers. Western Australia uses aircraft to transport dentists to isolated areas.(49) In Queensland, the state government transports surgeons by air from Brisbane to outlying country hospitals for both elective and emergency operations.

The great majority of patients served by these air transportation medical programs are white Australian farmers or ranchers and their families. Some, however, are aboriginal people, who may make contact with a field radio station. Unlike the Indian Health Service in the United States, Australia operates no federal health program for its original inhabitants, although there is an Aboriginal Health Division in the Australian Department of Health and several state governments operate Departments of Aboriginal Affairs. Just in the last few years, four Aboriginal Health Centers have been set up in capital cities (Sydney, Melbourne, Brisbane, and Perth) and four more are being planned in country areas. A handful of young Aboriginal women have been trained as nursing aides or interpreters for these centers, but no Aboriginal has yet become a doctor. In the Northern Territory, some of the federal government's small hospitals and health stations are used principally by Aboriginal people.

Attracting Health Personnel to Rural Areas

To attempt correction of the geographic maldistribution of health personnel, certain other strategies have been attempted in Australia.

Special Scholarships. The oldest method employed has been to offer state government financial support for professional education, on condition that the graduate will serve for a specified number of years at a rural location. Queensland has offered these "cadetships" to medical students for many years, under which they are "bonded" to serve one year in a rural post (usually a small hospital) for each year of assistance. About 30 students are so bonded (for differing lengths of service obligation) in Queensland at present, and a smaller number in South Australia. Although the graduate can later "buy out" of his rural obligation, he seldom does this because it might weaken his future prospects for appointment in a public hospital. A similar cadetship program has been operated on a small scale for dentists and rehabilitation therapists.

In New South Wales and South Australia, there have been small programs of "guaranteed annual income" for doctors who would agree to serve in rural areas of need. These state governments have seldom had to pay any deficits to meet these agreements, since the country doctor's ordinary earnings have typically exceeded the guaranteed amount. In South Australia, a medical graduate may also volunteer a period of "national service" in a rural post, to earn preferential rating in the later competition for public hospital appointments.

To permit country doctors to take refresher courses, state health departments sometimes send a "relief doctor" (usually a hospital registrar) to cover his practice. Relief nurses are sent to country hospitals in some states along the same lines. Another approach is for state governments to subsidize the construction of houses and medical offices in isolated country places.

In Western Australia and some other states with acute shortages of rural nurses, recruitment has been done in the United Kingdom. The state government pays the transportation costs, in return for rural service for one year; if the nurse is willing to remain longer in the rural post, she is given a bonus.

District Medical Officers. In Tasmania, and to a lesser extent N.S.W., a program of government salaried rural doctors has been developed. The pattern was legislated in Tasmania in 1937, with the local municipality paying one-third of the salary while the state government paid two-thirds and recruited the doctor. In 1957, the law was amended to its present form, under which the District Medical Officer (D.M.O.) gives services without charge to all patients during regular hours (9 a.m. to 6 p.m.), but may charge private fees for out-of-hours work. In addition, when there is no pharmacy nearby, the DMO may dispense medications at retail charges – having purchased them from the state at wholesale rates.(50)

In 1972 only 12 DMOs were employed in Tasmania, but the pattern has been considered by some of the larger states. With the supplemental earnings from private practice, drug dispensing, workers' compensation cases, special federal fees for care to pensioners, etc., and with defined allowances for travel, telephone service, etc., the DMO earnings are attractive. The over-all annual earnings of one such physician whom we visited were more than double the official salary. Among his obligations, the DMO is also expected to carry out certain community public health functions, like operating a child health center, conducting school health examinations, or doing post-mortem examinations in medico-legal cases. The state provides an office nursing assistant and sometimes the part-time services of a home visiting nurse. Difficult cases, of course, may be referred to the nearest city hospital.

Bush Nurses. In the Northern Territory and some inland rural areas of all the Australian states there are small health stations, staffed by the so-called "bush nurses." These registered nurses often have a second certificate in midwifery and a third one in child health. Formerly they were sent out by the voluntary Bush Nursing Association, organized by church groups, but today they are generally employed by official health agencies. In South Australia the bush nurses are employees of the State Health Department. In New South Wales the nearest public hospital is the employing authority and is responsible for supplies as well as arranging periodic relief periods for the nurses.

While the statutory functions of the bush nurses are principally for child health work, maternity care, and immunizations, inevitably they are called upon to give all sorts of emergency medical care and first-aid. Without any special legal authority, they make diagnostic judgments and carry out numerous medical procedures that would not ordinarily be permitted in an urban setting. Telephone consultations are available from a doctor 20 or 30 miles away, and referrals are made to the Royal Flying Doctor Service or one of the other aerial medical services, when necessary. In recent years around 300 to 400 nurses have been newly registered in the Northern Territories, and a good proportion of these must be bush nurses. These nursing personnel are obviously a crucial resource to compensate for the shortages of doctors in rural Australia.

* * *

This summarizes briefly the over-all health manpower resources in Australia, and some of the special measures to improve their availability in rural areas. As in other British Commonwealth countries, the availability of medical, nursing, or other positions in the government services or in other agencies is widely advertised both in professional journals and in the daily newspapers.(51) This practice, seen much less in the United States, serves to spread word of vacancies rapidly and ultimately to help in equalizing the geographic distribution of health manpower.

Before proceeding to analyze new and changing functions of Australian health personnel, a few highlights on the nation's utilization of health services and expenditures for them should be reported.

Utilization and Expenditures

In the absence of a regularized reporting system, like the continuing U.S. National Health Survey, information on Australia's utilization of all health services and expenditures for them is not easily obtained. Measurements of expenditures in governmental programs are more readily available, but total expenditures – public and private – as well as utilization rates, even within public programs, must be estimated on the basis of data from limited sources or localized surveys.

Utilization Rates

Aggregating data from several sources, R.B. Scotton estimates that for the insured population, Australians receive services from doctors at the rate of 3.8 per person per year.(52) While this figure does not include the relatively high use of general practitioner services in the Pensioner Medical Service (about 8 visits per person per year) or the workers' compensation program, it excludes also a low-use sector of the population who are not insured or covered by any program.

The rate of 3.8 doctor-contacts per person per year applies to 1968, when the roughly comparable United States rate was 4.5 – according to the National Health Survey. Yet the latter does not include doctor-contacts in hospitals, while the Australian figures does; the American data also include a small percentage of "services" rendered by telephone. Thus, while international comparisons of this sort are always hazardous, it would appear that Australian doctor utilization is somewhat lower than American.

A household interview survey in Western Sydney by Anthony Adams and colleagues, reported in 1971, showed that 80 percent of all doctor-contacts were to general practitioners — a proportion undoubtedly higher than prevails in the United States. Another finding of interest was that surgical operations in Sydney hospitals were performed in 65 percent of the cases by specialists, in 25 percent by general practitioners (concentrated in the 5-9 year age group, when tonsillectomies are frequent), and 10 percent by hospital residents or others.(54) It will be recalled that relatively more G.P. surgery is done in rural areas.

Regarding hospitalization, with Australia's greater supply of general hospital beds and their substantial support from government funds, it is not surprising that the rates of use should be considerably higher than in the United States. In 1970-71, counting all public and private general hospitals, there were 175 in-patients (admissions) per 1000 persons per year in Australia, which compares with a rate of about 150 per 1000 in the United States.(55) This rate varied from a low of 158 per 1000 in Victoria to a high of 199 per 1000 in Queensland, with its strongly public hospital system.

The average length-of-stay is also somewhat longer in Australian than in American hospitals. In 1971, the aggregate hospital days utilized in general facilities was 1556 per 1000, compared with about 1100 days per 1000 in the United States.(56)

Home nursing has been a steadily expanding service in Australia, as the population of aged and chronically ill increases. Between 1964 and 1971, the rate of home nursing visits rose from 117 to 198 per 1000 population per year. In Western Australia and Queensland, where the ratio of doctors is somewhat lower, these rates exceeded 300 per 1000 while in the better-doctored other states, the rates were all under 200 per 1000.(57) It would seem that visiting nurses in Australia do, indeed, compensate to some degree for a shortage of doctors.

With the Pharmaceutical Benefit Scheme, one would expect a high utilization of drugs, which is indeed reported by the federal Department of Health. Between 1964 and 1973, the rate of insured prescriptions (thus, excluding over-the-counter drug purchases) rose from 4.01 to 5.71 per person per year.(58) In the United States, often called the most "over-medicated nation in the world," the rate of prescriptions in 1965 was reported as 4.7 per person per year (being 4.0 for persons under 65 years of age and 11.2 for older persons).

Expenditures

As in virtually all industrialized countries, the expenditures for health services in Australia over the last decade or more has risen both absolutely and relative to the total national income. This rise is, of course, a compounded effect of increasing rates of utilization of services and increasing prices for each unit of service.

In 1971, George Palmer estimated that, not counting capital expenditures nor the costs of health manpower education or research, the personal health services cost Austr. $1,720,000,000. This was about 5.15 percent of Australia's gross national product — a lower percentage than America's (about 6.5) at the time.(59) Breakdowns of this total, although derived from an earlier year (1966-67), are enlightening. Considering the sources of outlays, they were as follows:

	Percent	
Government	52	
Federal		29
States		22
Local		1
Private	48	
Voluntary insurance		13
Personal		34
Charity		1
Total	100	100

While figures are not so clearly available for earlier and later years, there is little doubt that the proportion of the total derived from government sources has been rising. In fact, if we consider insurance and charity as "collective" types of expenditure, the proportion today in this sector undoubtedly exceeds two-thirds.

The purposes for which these amounts are spent are, as in the United States, heavily institutional — almost half going for hospital or related in-patient services. For 1967, the breakdown was as follows:(60)

	Percent	
Institutional Care	46.1	
General hospitals		32.6
Nursing homes		5.6
Mental hospitals		5.4
Ambulance, etc.		2.5
Public Health	4.2	
Personal services		2.6
Environmental		1.5
Other Personal Health Care	49.7	
Physician services		15.8
Dental care		4.7
Drugs		21.8
Other		7.6
Total	100	100

Referring back to the previous tabulation on sources of health funds, it may be observed that much the greater part of the 52 percent derived from government goes to support institutional services, while the lion's share of the 34 percent derived from personal outlays goes to the several components of non-institutional personal health care. The latter includes almost the whole of dental care, the cost-sharing and "extra" charges for physician's care, non-prescribed drugs, and the varied paramedical services (eyeglasses, physiotherapy, etc.) included under "other."

Concerning time-trends in health care expenditures, as noted earlier, the rises have been due both to increased utilization rates and higher prices per unit of service. Regarding prices, these have of course risen for virtually all goods and services in the Australian economy, but Scotton calculates that the rise in doctors' incomes from 1952 to 1969 was at a rate of about 5.7 percent per year, compared with a rise of 5.0 percent for average weekly earnings in all occupations.(61) This is not the same as saying that individual medical fees have risen faster than other prices (Australia does not carry out a "consumer price index" continuing survey, as does the U.S. Department of Labor), but general observation of medical pricing tendencies, discussed earlier – especially the frequent exceeding of the "common fee" – suggests that this is so. Australia in 1974 was in the grips of a serious general inflationary trend, which was clearly world-wide, and all components of health service were affected by it. An effort to stem the tide of medical and related price increases was one among several reasons for the Labor Government's enactment in 1974 of a social insurance program for health care, with more rigorous controls, to be discussed in Chapter Six.

Aside from inflation, the allocation of expenditures between institutional and ambulatory services, shown above, is stimulating various strategies in Australia to alter these proportions. The ways in which attempts to strengthen ambulatory and preventive services are being made, in the hope of reducing the relative load of costly in-patient services, and their manpower implications, will be explored in the next chapter.

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Chapter Three

INNOVATIVE FUNCTIONS OF HEALTH MANPOWER

This chapter will focus on innovations in the formulation of health manpower functions in Australia in recent years. To cope with the rising demand for health services seen in Australia, as in all countries, mounting attention is being given both to the numbers of most types of health personnel and to methods of increasing their productivity. Improving productivity inevitably means modifications in the patterns of delivery of health care.

Because of its basic medical importance as well as the enormous attention accorded to it in Australia, we will examine first new approaches to providing primary care – emphasizing as it does the role of the general practitioner of medicine and the development of community health centers to strengthen his hand. Next will be a brief look at the specialty services of medicine, in which the ferment is somewhat less. The community nurse movement, seen differently in different states, will be examined next. After this belongs a summary of new conceptions for other allied health personnel, and finally special observations on the important development of school dental therapists.

Primary Care: General Practice and Health Centers

In Chapter Two, we noted the concern in Australia about declining proportions of general medical practitioners – in spite of its slow rate and the much stronger role that G.P.s still play in Australia than in the United States and some other countries. To counteract these trends, two principal strategies may be observed: (a) deliberate programs to strengthen general practice both in the quantity and quality of practitioners; and (b) a movement to change the prevailing locale of general practice from private premises to community health centers.

Strengthening General Practice

To increase the relative numbers of general practitioners, as well as to improve the quality of their work, actions have been taken at several levels – in the medical schools, at the postgraduate stage in hospitals and community settings, and through programs of continuing education of established practitioners.

Medical School Activities. With the encouragement of strong financial support from the Australian Universities Commission (A.U.C.), as will be explained in Chapter Four, varied undergraduate programs for teaching "family medicine" are being developed in several medical schools – probably in all nine of them before long. Unlike its American counterpart, the Australian Medical Association has for many years strongly supported general practice (most of its members are G.P.s) and in 1971 recommended the establishment of Departments of General Practice in all medical schools.

A.U.C. funding for family medicine teaching programs has so far gone to the University of Melbourne and Monash University in Victoria, to the University of Adelaide and Flinders University in South Australia, and to the University of Queensland (Brisbane). Different administrative patterns are being tried in the medical school structure. At Monash University, for example, family medicine is being incorporated as a division in the Department of Social and Preventive Medicine. At Flinders Medical School, a separate Department of Primary Care and Community Medicine is being established, as the initial department in this new school. Various teaching methods are being tried, and a favorite one is assignment of the medical student to a small series of families for a continuing relationship through several years of schooling.(1)

Not that the concept of teaching family medicine is fully accepted by all medical school faculties. The specialties of internal medicine and surgery are still dominant and often resistant. There is no question, however, about the stronger place being accorded to general practice in undergraduate medical education through the influence of the Royal College of General Practitioners and the earmarked financial support of the Australian Universities Commission. Australian promoters of strong general practice are fond of quoting the British Royal Commission on Medical Education (Todd Report), which states:

> "Every undergraduate medical student should be given an insight into general practice.... Patients seen in teaching hospitals represent a highly selected group and an overwhelming majority of those seeking medical attention are treated in general practice without reference to hospital.... Certain aspects of medicine which are becoming increasingly important are best taught in the context of general practice.... No department of the medical school is ideally fitted to provide the necessary teaching.... We think that universities should offer senior academic appointments in this field."(2)

Through such early indoctrination, it is hoped that a greater proportion of new medical graduates will enter general practice, and without a feeling – so common in the past – of its representing second-class medical citizenship.(3)

Postgraduate Medical Education. After completing medical school and a one-year internship, the young doctor enters his postgraduate years. Here, the newly qualified medical graduate takes further training to prepare for his ultimate role as a specialist or general practitioner. In order to encourage selection of the latter field, a vigorous program of postgraduate training in "family medicine" has been developed, as will be described in more detail in Chapter Four.

To summarize it, the first two post-internship years of "basic training" consist of a rotating residency in hospitals, work in selected community general practices, and further didactic courses.(4) The work in general practices lasts three to twelve months, during which the resident is assigned graduated clinical responsibility. The final two "advanced training" years continue with the candidate as a "registrar" in the general practice, where he or she is delegated increasing responsibilities. Over this four-year postgraduate period, supervision is exercised by the Family Medicine Program of the Royal College of General Practitioners.

In 1973-74, the Family Medicine Program was financed by a grant of Aust. $1,100,000 to the Royal College of General Practitioners with Aust. $3,000,000 expected for 1974-75. This has been sufficient to subsidize training activities in every state, with some priorities for areas of doctor shortage. In June 1974, there were 182 doctors in basic training and 56 in advanced training. The state supersivory centers for this training furnish teaching literature, slides, etc. as well as general administrative surveillance. They also offer voluntary examinations.(5)

Continuing Education. The Royal Australian College of General Practitioners attempts to maintain continuing competence in general practice by periodic offerings of educational programs to active practitioners. These consist of various short refresher courses offered at hospitals or elsewhere, published materials, and also periods of service in hospital out-patient departments.(6)

A special program of re-training for female general practitioners, who had been out of practice with family responsibilities for several years, is also offered. In June 1974, there were 86 women doctors enrolled in this program.(7)

Analyses of General Practice. Both as a reflection of the great interest in strengthening general practice and to provide documentation of the needs, there have been a series of studies of the clinical content of general practice in Australia. By clarifying the nature and volume of problems faced by the general practitioner, these studies emphasize the importance of the field, in relation to the specialties, and the types of assistance required to enable the G.P. to meet the demands effectively.

A study in 1965, for example, emphasized the frustration of the general practitioner due to his sense of inability to handle the abundant psycho-social problems encountered in general practice.(8) It was based on interviews with and observations of a sample of 213 general practitioners, distributed in both metropolitan and rural settings, and in solo units, partnerships, and group practices. It was concluded that far more training was needed in both the undergraduate and postgraduate years on the realistic context of community general practice. The conclusions of this, along with other similar studies, doubtless helped to stimulate the dynamic Family Medicine Program of the 1970's reviewed above.

Another study reported in 1968 gathered information on 339 general practitioners in New South Wales, and likewise disclosed the inadequacies of the hospital training received by the majority of these doctors. It also revealed that while 75 percent of G.P.s employed a secretary-receptionist, only 10 percent had nurses who were engaged purely for their professional abilities. The wider scope of rural, compared with urban G.P. services – in surgery, obstetrics, anaesthesia, etc. – was documented.(9) Another general practitioner survey in Victoria, reported in 1969, disclosed the heavy workload of these doctors, with 56 hours of work per week as the median. Interestingly enough, the country doctors in 1967 had higher median incomes, by 10 percent, than metropolitan doctors – presumably due to their greater earnings from surgery and obstetrics; this was in spite of the higher earnings of group practice (compared with solo) doctors, who were typically more frequent in the larger cities.(10)

A more epidemiologically sophisticated study of general practice was conducted in 1969 by interviews of a sample of 1420 households, to learn the experience of patients with general practitioners. Nearly 80 percent of the 5343 persons in these households had recently consulted a general practitioner, and showed a generally high degree of confidence in his capabilities, not only for primary care but often also for surgical, obstetrical, and other specialized procedures. It was evident that in the eyes of the general population, the G.P. occupies a very important place, while at the same time people show increasingly knowledgeable attitudes about both the technology and economics of modern medicine.(11)

All these and other studies of general practice in Australia point to the great importance attached to this field, both by the medical profession and consumers. Even with the very small percentage declines in general practitioners, vis à vis specialists, noted in Chapter Two, the energetic actions taken by the Australian Medical Association to strengthen general practice are in notable contrast to the posture of the comparable association in the United States, where the initiative, to alter the swing of the pendulum away from specialization, has come mainly from the general practitioners themselves. The Australian Medical Association Report on *General Practice and its Future in Australia* gives a comprehensive analysis of the problem, as seen in 1972, and a clear set of recommendations for corrective action at all levels – the different stages of undergraduate, graduate, and continuing education, as well as the patterns of organization of clinical practice.(12)

Perhaps most remarkable in the above comprehensive report (as we learned from several conversations) is its advocacy of a greater opportunity for teamwork of the general practitioner with allied health personnel, if he is to be helped to render a better quality of service. This should be, the report recommends, through extension of larger group practices and also through the increasing location of G.P.s in "community health centers," staffed by a broad team of ancillary personnel. This crucial recommendation deserves more detailed discussion.

Community Health Centers

The "health center" as a physical structure, which would modify the whole character of delivering health service has a long history in the world and especially the British Commonwealth nations.(13) To oversimplify perhaps, it has been promoted in many countries as a way to enrich the teamwork and quality of ambulatory care, with integration of prevention and treatment, in somewhat the same way as the hospital has greatly facilitated the delivery of integrated specialized care to the seriously sick.

As in other countries, the community health center in Australia has been interpreted in different ways by different sectors of the health professions and the population, and its implementation has naturally been diversified. From everyone's viewpoint, however, it is seen as an instrumentality for strengthening primary care – either through offering it by general practitioners and others on the health center premises or through backing up the medical services of practitioners located in their own quarters.

In the strategy of the Labor Government elected in December 1972, the promotion of community health centers was regarded as a task that should be separated administratively from the movement for universal national health insurance. It was assigned therefore to a separate Hospitals and Health Services Commission which, while outside the Department of Health, reported to the same Minister for Health. (The health insurance program, it will be recalled, was made a responsibility of a new Minister for Social Security.) This Commission, set up in February 1973, was allotted a substantial appropriation from which it had the authority to make grants to the states, to non-official bodies (such as the Royal College of General Practitioners), to local governments and other entities for specific capital or operating purposes which would improve the organization or delivery of health services. Among the most important purposes for which these grants have been made has been for the development of community health centers.(14)

Types of Health Center. In tandem with an effort to tighten the structuring of specialty services in hospitals (see below), the health center movement has been envisaged clearly as a method of strengthening general practice and primary care. The response of general practitioners and the various state branches of the Australian Medical Association, however, has been somewhat mixed, so that in the interests of peaceful progress – rather than confrontation and contention – the Hospitals and Health Services Commission (HHSC) has been very flexible in its policies. It has given grants to the states for health centers with varying scopes of functions, depending on the wishes of the state health departments and the postures of local general practitioners. Three general categories of health center can, accordingly, be distinguished.(15)

Most desirable, in terms of the Commission's ultimate objective, is the health center which offers complete primary care, where general practitioners are located on the premises, along with a team of nurses, social workers, physiotherapists, health aides, and others. The doctors may be paid by a full-time salary, a sessional payment or part-time salary, or by conventional fee-for-service. This comprehensive health center pattern has, so far, been actually achieved in only a few places, and these are mainly in low income districts where local private G.P.s were in very short supply.

More numerous is the second type of health center, in which varying mixes of ancillary health services are offered, as a sort of "back-up" for private general practice, without medical practitioners being in the building at all. These supporting and allied personnel may include community health nurses (see below), social workers, psychologists, physiotherapists, speech therapists, dieticians, geriatric specialists, or others. The general practitioner, from his own private quarters, calls on members of this staff to help in the care of his patients by home visits or by asking the patient to visit the center. It is perhaps self-evident that this type of health center, being modest and distinctly auxiliary in scope, is not a competitive "threat" to the private practitioner, and has been developed where local doctors were clearly resistant to the more comprehensive type. Yet, one may expect that, in time, some or even all of these supportive health centers may acquire G.P.s on their premises and become capable of offering generalized primary health care.

The third type of health center is one with orientation restricted to some special health problem, such as problems of the aged, occupational injuries, or simply nursing services in remote areas. One of this type of center, which we visited, had been started some years ago by an industrial group to cope with workers' compensation trauma cases, although its scope had recently somewhat broadened.

The Hospitals and Health Services Commission had given grants summing to Austr. $10,000,000 in the 1973-74 fiscal year for the establishment or enlargement of 52 community health centers. These were distributed among the states as follows:

New South Wales (including A.C.T.)	17
Victoria	14
South Australia	8
Queensland	6
Tasmania	5
Western Australia	2

The physical structures and designs of all three types of health center are highly variable. The great majority are renovated buildings – old homes, stores, etc. – built originally for other purposes, but a few have been newly constructed. Administratively, some are operated directly by the state official public health agency and others by local hospitals, health agencies, or other community groups.

Controversies and Significance. As noted, most community health centers have been started in areas of local doctor shortage, not only because needs were greatest in such areas, but also professional resistance least. The principal exception has been in the A.C.T. (Australian Capital Territory), where – being close to the seat of Labor Government authority and having an especially energetic local Director of Health Services – the pattern is being promoted as a sort of pilot demonstration for the whole nation. As of July 1974, there were three health centers in the A.C.T., all of the comprehensive type. They differed, nevertheless, in methods of doctor remuneration and in staffing. In one, all the doctors (four of them) are on full-time salaries, in the second they are paid fee-for-service, and in the third there is a combination of the two methods. It has been claimed that the fee-for-service doctors are more productive, seeing more patients per week, but, according to the A.C.T. Health Director, the full-time salaried doctors take more time per case (15-20 minutes, compared to 6-8 minutes for the fee doctors), referring the simple cases or the follow-up visits of patients previously examined to nurses, social workers, or others. Significantly more allied personnel are employed in the salaried-practice centers; referral of patients to them means no loss of income to the doctor. It is intended that by one year hence, several more centers would be established and about one-third of the A.C.T. population would be served by community health centers for their primary care – curative and preventive (especially child health services).

In most of the existent health centers in Australia, and most that we visited, however, the services were of the second type – purely supportive. In Melbourne, Victoria, the Fawkner Park Community Health Centre offers home nursing (through the cooperation of the local Royal District Nursing Service), mental health counseling (through psychiatric nurses of the State Mental Health Authority), social work, and medical coordination by a part-time G.P. working to link this staff with the patient's personal doctor. With the decline of the doctor's home visit, because of time-pressures on the general practitioner, home visits by health center personnel are regarded as especially important to convey a properly broad understanding of the patient as he fits into his total environment.(16)

One supportive-type health center in Sydney is administered by a large general hospital and is staffed by three nurses, two social workers, a physiotherapist, a chiropodist (one day a week), a part-time dietician available from the hospital, and a receptionist. The Medical Director is a salaried general practitioner who also carries other clinical responsibilities in the hospital out-patient department and devotes his health center time mainly to planning and administration, seeing special problem cases only occasionally. Of the patients seen by this health center staff, 20 percent are referred by local G.P.s, 60 percent by the hospital (typically on discharge of chronically ill cases), and 20 percent by other community agencies.

Another health center in the Sydney metropolitan area, in the suburb of Glebe, has similar supportive functions; being in an especially low-income area, however, its staff doctor offers a limited amount of direct patient service. This center is located on the ground floor of a custodial old people's home, and a large share of its patients are the aged and chronic sick. In Brisbane, Queensland, one health center visited is known as the Community Home Care Service and is also devoted almost entirely to the aged and chronically ill. It is sponsored by the Division of Geriatrics of the State Department of Health and serves about 180 new patients per month; nearly all the general practitioners in the area have called upon the center for assistance.

Still another health center visited is of the third type listed earlier, being focused mainly on industrial injury cases. The Trade Union Clinic and Research Centre in western Melbourne had been started by the Meat Industry Employees Union in 1964, as a sequel to a dispute involving the treatment of work-related injuries. Eventually the family dependents of workers became eligible to use the clinic, although most of the work is still trauma-related. The doctors and other personnel are all paid on a salaried basis, but most of the income of the center is derived from fees paid by workers' compensation, by health insurance funds, or directly by non-insured patients who can afford it (indigent patients are treated free). About 1500 patients are seen per week, and the center is used for teaching purposes by the Monash University Medical School. The apparent intention of this trade union-initiated health center is gradually to expand into a comprehensive community health center.(17)

The whole health center movement in Australia is clearly dynamic. For some years it has been seen as a solution to the difficulties of isolated general practice, and a compensation for the declining links of the G.P. to urban public hospitals.(18) It was regarded as an adjustment to the rising demands on general practitioners in the face of their relatively declining supply – through the advantages of medical care teams – well before the return of the Labor Government to power.(19) When, therefore, the Labor Government was elected in late 1972 and the grant program for "community health services" was launc[illegible], it was essentially building on a conceptual momentum that was already under way.

Still, if only because of the ideological fears of the private medical profession relating to a Labor Government, the strategy of the Hospitals and Health Services Commission has obviously been to move cautiously, at a pace that the state health authorities deemed appropriate and not-too-controversial.(20) Thus, the major thrust of the health centers, even the most comprehensive type, at this stage is to emphasize the care of the chronically sick, the aged, and the poor. This approach is less threatening to the average private practitioner, who lacks the time anyway for proper care, with periodic home visits, to this type of patient.

From the point of view of the Australian Medical Association, on the other hand, there is no doubt that the health center movement is viewed with some alarm. We gathered this impression from official representatives of the Association at national and state levels in several states, to whom we posed the question. They know that the government's intention is to expand grant support, for health centers from the Austr. $10,000,000 given in 1973-74 to some Austr. $42,000,000 in the next few years. Seeing this as a threat to the independence of the private practitioner, the national and state branches of the Association have formulated policies that might be politically effective in keeping the movement within certain bounds. These policies include, for example, the principle that health centers should be developed only in areas of doctor shortage, that only fee-for-service remuneration should be applied for doctors, that their emphasis should be on provision of preventive and curative services to low income patients, etc.(21)

Some Australian observers, viewing recent developments in the United States, have looked upon the community health center as the nucleus of "health maintenance organizations" (HMO) in which a defined population would support the costs through prepayment or insurance.(22) With the separate and strong governmental funding of hospitals, on the other hand, any implementation of the HMO idea in Australia would have to be quite different from that in America, where savings on hospital use typically yield extra financial rewards to the doctors. In any event, it would seem that the recent enactment of universal health insurance in Australia (see Chapter Six) would help to provide firmer financial support for the operation of those community health centers, especially the comprehensive ones, that are developed. In our opinion, this whole movement is of the greatest significance in modifying the patterns of delivery of primary care in the years ahead.

Like all new ideas in health service organization, opposition from those who have prospered from the "status quo ante" has inevitably arisen. Likewise, as in all countries, the younger generation of doctors is more receptive to the new patterns than are their seniors. In fact, a survey in Brisbane in 1973 found, in a sample of 140 G.P.s, that 64 percent considered that health centers would improve medical and paramedical services for the population.(23) Judging from the rapidly rising rate of utilization of the health centers that have been developed, particularly those with family doctors on the premises, the people like the idea. For similar reasons perhaps, hospital casualty departments have also become increasingly used in Australia, as in America. All the signs, therefore, point to the expanding role of this innovative pattern for delivering primary health care in Australia.

Specialized Medical Services

While less turbulent perhaps, innovations have been occurring in the functions of various medical specialties. Moreover, even in some long-established specialties notable differences are discernible between patterns in Australia compared with those in the United States. Some of each of these types of health manpower function are of interest and may be described.

Medical Staff Organization in Hospitals

As noted in Chapter Two, the great majority of hospital bed facilities in Australia are in public facilities, where pressures have steadily mounted for more highly structured medical staff organization. The most recent figures come from a survey conducted by the Hospitals and Health Services Commission in June 1973. All states and territories cooperated in providing data on their hospitals, except for Victoria, so that these figures are not completely comparable (as a time trend) to those given in Chapter Two, but the relative strength of public, compared with privately sponsored hospitals, is apparent. Except for Victoria, the rate of response to the questionnaires sent to all hospitals receiving federal per diem subsidies (hence, excluding mental institutions and military or Repatriation facilities) was over 99 percent. This constituted a national total of 813 general hospitals in which the beds were distributed as follows:(24)

	Beds
Public: state owned and operated	50,625
Public: religious and charitable	5,853
Private: religious and charitable	5,778
Private: profit-making	4,706
Total:	66,962

With about 85 percent of the beds in 1973 in public hospitals, where medical staff organization has been growing increasingly structured, it is not surprising that a rising proportion of all doctors are becoming full-time salaried hospital employees. In 1947, of all Australian doctors 14.2 percent were so employed, and this proportion had risen to 28.5 percent by 1971. An analysis in 1972 showed 4800 doctors in full-time salaried hospital positions, of whom 19 percent were interns, 49 percent were residents or registrars, 7 percent were administrative, and 16 percent were full-time specialists.(25) This trend has been associated with the advancing technology of medical science, the increasing demands for specialty training, and the rising requirements of the specialty colleges for acquiring membership, with all its concomitant economic advantages. At the same time, specialists mainly in private practice who serve patients in the public beds of public hospitals, as noted earlier, are increasingly (now nearly always) paid on a sessional basis, rather than being expected to serve the poor as an "honorary" or charitable duty.

The other side of the hospital staffing coin is the reduced opportunity for general practitioners to work in public hospitals, except in country areas. This, in turn, adds fuel to the movement for providing the G.P. a better work setting through community health centers.

Psychiatry and Mental Health Services

As noted earlier, the majority of Australian psychiatrists are in public employment, rather than private practice – a fact which reflects a good deal about the mode of functioning of mental health services in general. Whether for local cultural reasons, lesser diffusion of Freudian influences from central Europe, or other factors, mental illness seems to summon less attention (we do not know its relative prevalence) in Australia than in the United States. Mental hospital beds, including those both for mental disorder and retardation, numbered 2.1 per 1,000 population in 1972 (when the U.S. rate was about 4.0 per 1,000), having declined from 3.0 in 1963.(26) (It will be recalled that Australia's general hospital bed ratio exceeds America's.)

Despite this relatively low mental bed ratio, in recent years Australia, like the United States, has put increasing emphasis on organized mental health services for the ambulatory patient in the community. This approach has been implemented principally through the establishment or expansion of community mental health centers of varied types. The Mental Health and Related Services Act of 1973 provided for federal grants to the states and local units for the construction and operation of such centers. This Act is administered by a special branch of the federal Department of Health; in 1973-74 grants, aggregating more than Austr. $7,300,000, were given to nearly 200 mental health projects, of which about half were in New South Wales and the rest in the other five states.(27) These clinics and similar programs included services for alcoholism and drug dependence cases, as well as for general mental or emotional disorders.

It is the intention of the Ministry of Health to work toward integration of these mental health clinics of different sorts with the generalized community health centers discussed earlier, with a target date of July 1975. The plan is to broaden the scope of the mental health units to include general primary or supportive medical care, and likewise to extend the general centers to include attention for psychiatric problems.

More specifically relevant to manpower policies for mental health services, there has been a growing sense of shortage of paramedical personnel in Australia. Social workers have been in particularly short supply, and there is no clear category of "psychiatric social worker." Although some of the community mental health centers are staffed with general social workers, most are not, and this has created pressures for training alternative types of personnel. One approach has been [illegible] year of training in psychiatric service for [illegible] nurses. Another has been to use the "community health nurse" (see below) for assistance in a community facility. In South Australia, and to some extent in other states, a new type of "mental health visitor" has been used.(28)

These were, more or less, sub-professional social workers who underwent a 12-month training period — three months of it being didactic and nine months being on-the-job practical training. In South Australia, the training was supervised by the chief social worker of the Mental Health Services Branch of the State Department of Hospitals. As explained in Chapter Four, candidates for this training were typically mature men and women, who were not expected to have any special academic credentials, so long as they had plenty of life experience and showed an aptitude to relate to troubled people. Despite the success claimed for this type of mental health auxiliary, problems were met in job classification for salary purposes by the Public Service Board. The plan now is to replace these personnel with "welfare officers" trained in colleges of advanced education to a vocational level not quite up to that of the university-prepared social worker.

Another approach has been the use of volunteers, who attend a few weeks of lectures, to help staff community mental health programs. These include not only clinics, but also telephone "life-line" counseling services or programs of visitation to discharged mental hospital patients. Volunteer mental health workers are expected to refer cases, when necessary, to psychiatrists or fully-trained social workers.

Psychologists have also begun to play a small but expanding role in community mental health facilities. Psychiatric service, however, has evidently not attracted university-trained psychologists in Australia to anything like the extent that has occurred in the United States.

The occupational therapist, on the other hand, has gradually moved closer to the social worker in orientation in Australia, than to the physical therapist.(29) While their origins in Australia, as elsewhere, were in rehabilitation of the physically handicapped, the O.T. is increasingly being viewed as a manpower resource for general as well as mental health centers, to help patients adjust to the ordinary demands of daily living. The psycho-social, as well as the physical, component in the handicaps of aged and also younger patients is becoming increasingly appreciated as a problem to which the occupational therapist can effectively apply her efforts.

These health manpower developments in the psychiatric sphere apply also in community hospitals. Just as the emphasis has been toward developing ambulatory care centers for the mentally ill, Australia shares the approach seen also in North America, with respect to shifting admission of mental patients from mental to general hospitals. The limiting factor, so far, has been the shortage of allied psychiatric personnel. The new approaches described above apply, therefore, to the staffing of general hospitals for mental patient care, as well as to community mental health programs.

Other Medical Specialty Services

A few comments on health manpower innovations involving other medical specialties may be helpful.

Unlike the American scene, pediatrics in Australia is regarded as a distinctly consultant specialty, rather than as a branch of medicine for total health service to children. The point is that primary care for children, as well as for adults, is regarded as the province of the general practitioner. Moreover, most well-baby or well-child care, given in public health clinics, is provided by nurses who have studied a post-basic year in child health. The pediatrician, therefore, is only called in by the G.P. for consultation on especially complex problem cases in children. As noted earlier, the great majority of candidates for the specialty College of Pediatrics are failed in the examination process and in all Australia there were only 135 pediatricians recorded in the 1966 Census.

Physical medicine and rehabilitation, on the other hand, does not exist at all as a specialty in Australia. Rehabilitation therapists in physiotherapy, occupational therapy, and speech therapy — while regarded as working under the general direction of doctors — have much latitude in what they do. They do not simply execute the orders of a physical medicine specialist, as in a properly staffed American facility, but they themselves design the course of therapy, the modalities to be used, their duration, etc. for cases referred to them by a doctor.

Somewhat similar to pediatrics, obstetrics is more of a consultative specialty in Australia than in the United States. A large share of maternity cases are delivered by general practitioners, and the obstetrician is called in only for complicated cases or for a normal delivery in very wealthy patients. Also, the nurse-midwife, who has had a full year's additional training after basic professional nursing, does a good many deliveries in the hospital. Nearly all (99 percent) childbirths in Australia occur in hospitals, and theoretically they are supposed to be done by doctors – either fully trained ones or house officers (interns, residents or registrars) in training. Theoretically the nurse-midwife is only expected to assist, although in prenatal care she may examine the pregnant mother by herself. In practice, however, one is told that very often the doctor does not arrive in the delivery room on time, and then the nurse-midwife carries out the whole process. Moreover, the midwifery certificate requires that the graduate nurse must carry out 20 deliveries under supervision by herself. We were not able to find statistical data on the proportion of obstetrical deliveries actually conducted by midwives; estimates of different doctors and nurses whom we questioned differed widely, but our guess is that, with hundreds of nurse-midwives actually working in public hospitals, and even some private ones, a sizeable proportion – perhaps 20 to 30 percent – of childbirths are really attended by midwives. Most of these are concentrated among maternity cases in public or "standard ward" beds of public hospitals. This would constitute a significantly different manpower function from that prevailing in the United States – although changes in this regard are also occurring in America.

The same cannot be said, however, for anaesthesia. While nurse-anaesthetists are becoming more commonly used in America, under the supervision of a medical anaesthesiologist, this is not a subject of nurse training in Australia. Perhaps the only exception is the occasional administration of transient open ether anaesthesia by nurses in obstetrical deliveries.

To some extent, all the medical and surgical specialties in Australia are of a more selectively consultative character than in America, because of the greater proportion of and higher professional importance attached to the general medical practitioner. This more restricted role for the specialist is reinforced by the policies of the specialty colleges in keeping a tight ceiling – through high failure rates on their examinations – on the numbers admitted to each college.

Community Health Nurses

Because of the growing importance attached to "nurse practitioners" and other extended-role nurses in the United States, as well as "physician's assistants," we took special pains to explore comparable developments in Australia. The closest parallel one finds is the new movement for training and use of "community health nurses."

While the latter term is widely used in Australia and some activity to train such nurses, with a broader role than was customary in the past, is found in every state, the precise content of the community nurse role is far from uniformly defined. At this moment, her role is very much in flux.

In only one respect can there be said to be consensus on the functions of the community health nurse – that she carries out what in America would be called "generalized public health nursing." With the highly specialized and fragmented tradition of out-of-hospital nursing in Australia, even this relatively modest form of integration represents innovation. There have long been, and still are, in Australia specialized public health nurses for maternal and child health work, for tuberculosis, for school work, for industrial health service, for midwifery, for psychiatric care, for home visiting to chronic patients, and so on. With the development of the concept of the community health *center*, for generalized primary care by a family doctor or for back-up of his services, it was only natural that the generalized field nurse who could carry out *all* these outreach functions should correspondingly first evolve. This clearly has been the most widely held conception of the community health nurse.(30)

A second point of consensus concerns the "bush nurse" in remote areas. Virtually everyone agrees that the bush nurse, whether authorized by statute or not, has long had a very wide scope of functions, including the diagnosis and treatment of much illness (along with the prescription and dispensing of medications) – sometimes even for major serious illness, with occasional guidance of a physician only by wireless or telephone.

Beyond these definitions, there is a wide range of opinions and practices concerning the community health nurse. In South Australia, one knowledgeable medical observer speaks of two types of community nurse: the "health type" and the "practice type." The former coincides with the description of a generalized public health field nurse given above. The latter is attached to a medical practice and carries out many clinical procedures – like blood pressure determinations, history-taking, or venapunctures – but she does not exercise clinical autonomy. That is, she works under the orders of a doctor and makes no judgment herself on diagnosis or treatment. She is of great assistance in the practice of the G.P., in a health center or a private office, but she cannot substitute for him in decision-making.

On the other hand, an empirical survey in New South Wales has examined the actual functions of nurses in the offices of 222 general practitioners. While not yet reported, the investigator tells us that the decision-making role of the "practice nurse" in actual patient management – not to mention physical examinations and medical histories – is growing. The seasoned "practice nurse" is permitted and expected to handle many simple cases from start to finish. Most G.P.s say that they see their practice nurses doing more and more in the future.

In Queensland, we hear of the wide range of functions delegated to the nurse in the Intensive Care Unit of hospitals. She monitors critically sick patients, performs intubations, etc., but, it is stated, she does not make diagnostic or therapeutic decisions. A similar interpretation is offered in South Australia, with the nurse having wide responsibilities not only in I.C.U.s, but also in general traumatology and resuscitation in emergency departments.

An official of the powerful Health Commission of New South Wales tells us that the proposal that nurses be trained to carry out "extended roles," to take the doctor's place in management of simple cases, was opposed by the nursing leaders themselves. Emphasizing, in the British tradition, that nursing was a separate profession to "care for" the patient, they objected to the idea of doing medical work rejected as too menial by the doctor.

In the Western Metropolitan Health Region of Sydney, there are 45 nurses explicitly defined as "Generalist Community Nurses," who are physically based in schools and who are expected to:

- provide advisory services to mothers and children
- counsel other individuals and families
- participate in health screening programs
- provide domiciliary nursing care
- mobilize supportive house-keeping or transport services as may be needed
- watch over high-risk patients (the aged, the chronic sick, patients recently discharged from hospitals) and refer them for medical care when indicated.(31)

But in this jurisdiction no functions equivalent to those of America's nurse practitioner are included.

The College of Nursing, Australia has formulated a policy statement on the "Community Practice Nurse" which – in addition to the above type of public health functions – includes authority to "provide treatment for patients with minor medical conditions."(32) This agency offers a 42-week course intended to prepare registered nurses for this broad scope of functions, with arrangements for additional practical experience in "a family practice ... for those graduates who will be working in medically isolated areas." (See Chapter Four.)

The important National Health and Medical Research Council has also struggled with the problem of defining the changing role of Australia's nurses. In a formal document of May 1973, the Council considered both present and future roles of the nurse. It stated that:

> "In the Australian setting, the nurse is accepted as having a complementary role to that of the doctor. .....It is also accepted that she may be the person of first contact who will make the necessary referrals or, who in certain circumstances, will be able to carry out medical as well as nursing duties ... Nurses who diagnose, give medical and surgical treatment, administer drugs of all types ... etc. have done so, and are doing so, with the benefit of government subsidy .... It can be expected that the role of the nurse in the future will encompass a wide range of activities ... in the areas of health education, prevention of disease, treatment and rehabilitation, in both hospital and community .... It appears that facets of the nurses' role which until now have been performed only in selected clinical situations and in remote geographical areas will also be incorporated into urban community services. The nurse may become the primary contact worker or the nurse clinician and will need to be adequately prepared to bear broader health responsibilities."(33)

Thus, the planning and, to some extent, the implementation of the community health nurse's role in Australia is moving actively toward a scope that would include far more clinical judgment and service than is implied in the mere generalizing of traditional public health nurse functions. Compared with the United States, nevertheless, one would expect that Australia's far stronger and more numerous body of general medical practitioners will somewhat inhibit the movement. In a sense, the movement to enlarge and strengthen general practice has priority over the movement to broaden the clinical role of the nurse. For health education, for the performance (under orders) of technical procedures, for follow-up of chronic cases in the home, for all sorts of *assistance* to the G.P., yes, the nurse's future is clear. But, in our view, the more likely prospects in the Australian scene are to increase the widespread accessibility of general practitioners, to extend their effectiveness through teams in health centers, and to lighten their load in the homes of patients through increased assistance from community health nurses.

In hospitals, also, the flexibility of the nurse's role is seen as expanding. Australia, relative to other countries, has rather short supplies of rehabilitation therapists, technicians, social workers, and even administrative personnel. But her supply of nurses, is relatively large. In the words of the National Health and Medical Research Council: "More nurses will need to develop specialist skills in the race of ever advancing technology .... The potential of nurses should be fully explored before considering the introduction of new categories of health workers."(34)

It may be noted that, for reasons explored in Chapter Five, the fear of malpractice actions against doctors is not inhibiting an expansion of the role of nurses in Australia, as it has done in America. It is the practice prerogatives of the general practitioner that are the most decisive influence. The tasks of prevention, routine examination of children, health education, record keeping, time-consuming mechanical procedures, visits to the patient's home – these are the tasks which most Australian general practitioners are eager for the nurse to perform.

As for the male physician assistant, it need hardly be said that he has not appeared at all in Australia. It is not only that Australia has no significant number of returning Vietnam war veterans (which generated the American movement), but the reservoir of nurses – active and inactive – has been the obvious manpower resource to meet the expanding demands for medical care. On the other hand, it may be noted that a slowly increasing proportion of men are entering nursing schools (although not at the rate that women are entering medical schools).

The training of community health nurses will be discussed in the next chapter, but here it may only be noted that, at this time, the locales are in varied community settings. The goal is clearly to move this training, along with basic registered nurse preparation, principally into the colleges of advanced education (with the not-so-hidden advantage of 100 percent federal funding), using community health centers or G.P. preceptors as affiliated field placements. The sources of R.N.s for this training are numerous. The Royal District Nursing Services are an important source, along with health departments and hospitals. There is also enough challenge and excitement in the movement to attract back into service from retirement many married middle-aged nurses, whose children have grown up.

Finally, as has been noted, the degree of innovativeness and experimentation with widened roles for community health nurses differs much among the states, and even among regions within a state. Salary scales differ also, sometimes being higher than hospital nurses with equivalent seniority, and sometimes not. Federal grants are clearly providing strong impetus to the movement, but the degree to which they are taken up by the different states depends not only on the dynamics in the health professions of that state, but also on the political party controlling the state government; Liberal Party states are less keen to respond to support from a Labor Party federal initiative.

Other Allied Health Personnel

In previous sections of this chapter, we have discussed allied health workers associated with psychiatry, rehabilitative medicine, and principally general practice in the form of the community health nurse. A few other special categories, with newly evolving functions, should be discussed briefly.

Pharmacists

The relatively large supply of pharmacists in Australia was noted in Chapter Two and, with this, there has arisen a natural exploration of new roles. In Chapter One we saw that local drugstores are often used as collection points for voluntary insurance fund premiums, but this is essentially an administrative function taken on to attract customers to the premises.

More important, the pharmacist in Australia, as in the United States, is seeking to develop his skills and role as a general health adviser to the patient. He wants to be the expert on drug interactions, as well as the adviser on drug administration. He wants to serve as a health educator and a person to refer the patient to specialized places or personnel for meeting his needs. He also wants to play a greater role in hospitals as the "ward pharmacist" for dispensing, in place of the nurse. Meanwhile, with the large ratio of pharmacists, he sees no place for "pharmacy clerks," and wants to carry on with his traditional role of packaging pills and typing labels. He also wishes to continue his role of counseling patients who come to purchase non-prescribed medications.

Training for all these roles has not yet been developed but is under consideration. It is expected that pharmacists of the future might work in community health centers as well as in hospitals and private pharmacies. The Pharmaceutical Association of Australia and New Zealand has recently issued a policy statement on this entire re-definition of their functions.(35)

Optometry and Chiropody

Economic competition between ophthalmologists (medical specialists) and optometrists has a long history, and indeed in America gave rise to the first specialty board in medicine – that for ophthalmology in 1916. In Australia, the National Health Benefits Act has given a distinct advantage to the ophthalmologists, since insurance payments are made to them for visual refraction services, but not to optometrists.

Nevertheless, because the supply of ophthalmologists has been kept limited, relative to the demand, optometrists still find a market for their services and they function in Australia (85 percent in private practice), although their numbers declined from 932 in the Census of 1961 to 636 in the Census of 1971.(36) To make a living, in the face of their insurance law handicap, many optometrists also do their own lens-grinding and preparation of eyeglasses, although much of this work is delegated to "optical mechanics." The latter technicians, of course, also get spectacle prescriptions from ophthalmologists. It is almost unheard of, however, for an optometrist to work in collaboration with an ophthalmologist in private practice, as one sees increasingly in the United States. An optometrist, on the other hand, may sometimes have an optical mechanic working directly with him as an assistant.

One exception to the above statements is found in a nationwide chain of offices, known as OPSM (Optical Prescriptions and Spectacle Makers). This is a large company controlled by ophthalmologists, which employs both optometrists and optical mechanics, and offers complete vision-care service through shops in all the main cities. Since the control is by doctors, the refractive services are covered by the insurance program. One of the political campaigns of the optometrists has naturally been to get their services covered under the health insurance law, and this has finally been achieved in the new legislation of 1974.

Chiropodists are also a relatively small allied health profession, but their numbers have not been declining, despite non-coverage under the health insurance law. As noted in Chapter Two, the great majority of these providers of foot care are women, numbering 867 in the 1971 Census. While most chiropodists are in private practice, an increasing number are being employed full-time or part-time in nursing homes, where foot problems in the aged and chronically ill are relatively common. This service also will become insured under the new 1974 insurance legislation.

Rehabilitative Therapists

The absence of physical medicine specialists in Australia was noted earlier, so that the role of the physiotherapist is relatively more important and independent than in the United States. Not being payable under the health insurance law, however, only a small proportion of the 1865 physiotherapists (1971 Census) are in private practice, the vast majority being employed in hospitals, rehabilitation centers, nursing homes, and such institutions.

To meet the steadily increasing demand, physiotherapists in a few states are training aides, though in other states this idea is resisted. A new emphasis in the field is prevention of muscle strain or injury, known as "ergonomics." In schools and nursing homes, physiotherapists are employed to educate children and adults about posture and motions, so as to reduce the risk of musculoskeletal disorder. They also assess newborn babies in hospitals to detect minimal muscular dysfunction due perhaps to cerebral injury; treatment of the baby may then be started at an early stage.

The swing of occupational therapists toward a psycho-social role has been discussed earlier. Many O.T.s, however, are still employed in institutions treating the physically handicapped.

Speech therapists, still in very short supply in Australia, are becoming increasingly appreciated. Government departments of health and of education are their principal employers, while some work in the larger hospitals and a handful are in private practice.

Other Paramedical Workers

Concerning other paramedical workers, a few comments may be offered regarding innovative developments in functions.

Laboratory technicians are being trained in increasing numbers to keep up with the advances of medical technology. Even the accelerating automation of laboratory and radiological procedures has not reduced the demand. To cope with the needs, various forms of laboratory assistants are also being trained on-the-job.

Operating room technicians are being trained on-the-job in several larger hospitals to adjust to the shortage of nurses. While initially opposed by the operating theater nurses and anaesthetists, they are now increasingly accepted; the Royal Australian College of Surgeons is helping to develop a standardized training program for this new type of health worker.

The functions of social workers and new ancillary forms of social welfare aides were discussed earlier in connection with mental health services. It is obvious, however, that social workers render service in general hospitals and other settings where they help patients adjust to general problems of living – along with occupational therapists – not necessarily in a psychiatric context. Social workers generally in Australia, as elsewhere, are concerned with a fight for their professional identity, particularly in the medical world, "where many people consider themselves expert in 'human relations.' "(37) A majority of all social workers in Australia seem to be engaged in some sort of medical setting and are working hard to contribute their viewpoint to policy decisions in the health field.

Cutting across several fields, a generalized "paramedical aide" is being trained in South Australia to fill an auxiliary role of many types. Usually female, she receives a 22-week course in a hospital, where she learns something about nursing, social work, physiotherapy, and occupational therapy. Most of these aides work to assist the visiting nurse in the patient's home, but some of the same sort of personnel in Tasmania work in hospitals. The Australian Medical Association also advocates the training of such all-around auxiliary personnel for doctors' offices as well. Somewhat equivalent polyvalent aides for remote areas serving aboriginals, and often being aboriginals themselves, were discussed in Chapter Two.

Note should also be taken of health service administrators, of which several types may be distinguished. Most clear-cut perhaps is the hospital administrator, often a person who has risen from the ranks of the business office staff of hospitals, but increasingly a trained graduate of the School of Health Administration of the University of New South Wales. The physician who is a member of the College of Medical Administrators, usually without any special preparation except a certain talent and background of experience, is a second type. The nurse who has had post-basic training in nursing administration is another type, and often in a hospital or community health center she may be expected to take administrative responsibility for many services outside of nursing. And now in some of the colleges of advanced education, courses are beginning to be offered in health administration at a lower than university level. With the new ferment in the whole health care delivery system of Australia being stimulated by federal grants for innovative programs, more sophisticated health service administrators are being advocated.(38)

Regarding all the allied health personnel discussed in this chapter, it is apparent that less elaborately trained types of health worker are continually entering the field, to cope with rising needs and demands at lower costs. Yet this has not occurred at as rapid a rate as in the United States, where the relative numbers of registered nurses and of general medical practitioners have been lower. The strength of general practice in Australia has, relative to America, retarded the development of full-fledged "nurse-practitioners" to substitute for the doctor. Likewise the strength and numbers of professional nurses have slowed down the training of "enrolled nurses" until quite recently (see Chapter Four) to replace, in certain functions, the registered nurse. But, albeit at a slower pace, both these types of health personnel with newly defined functions have been gradually developing in Australia.

Teamwork has been said to be slow to develop in the general hospital of Australia, among different levels of the same type of health worker or among different categories of occupation. It is perhaps most highly developed in long-term care or rehabilitation units, where physiotherapists, occupational therapists, social workers, and nurses work together more smoothly as a team. The community health center may also provide the environment for increasing teamwork in the delivery of primary health service.

Finally, there is a class of health personnel so innovative in Australia – at least relative to the American scene – that it warrants discussion in a separate and concluding section of this chapter: the school dental therapist. This functional innovation is probably Australia's most deliberate response to a health need which was simply not being met by the existing categories of health manpower.

School Dental Therapists

The serious shortage of dentists, discussed in Chapter Two, has stimulated Australia to follow the pattern of New Zealand and about 20 other countries in developing a school dental therapist (also called a school dental nurse) to provide dental care to school children. In 1971, the nation as a whole had one dentist to about 3,000 persons, with the poorest ratios in Tasmania and South Australia, particularly in rural areas. In the country areas of South Australia in 1970 there was one dentist to 7,400 people, and this shortage was accentuated by great distances and poor roads.(39) It is no accident that the states with the most acute shortage of dentists were the first ones to develop the innovative school dental service.

The main factor responsible for the decision to train school dental therapists was the poor dental health of children. Surveys of dental health among school children revealed enormous unmet needs. South Australian surveys found that only 12 percent of decayed teeth of primary school children were filled and about 25 percent of decayed teeth of secondary school students, with the least favorable level of care in low socio-economic groups and in rural areas.(40) In New South Wales, only 30 to 40 percent of the restorative filling requirements for permanent teeth of school children are being met and less than 20 percent of requirements for deciduous teeth.(41) The widespread prevalence of dental decay, malocclusion, periodontal disease, and tooth loss among young people in Australia is reflected in the common statement that in the past a young man would not marry a young woman until she had had all her teeth removed and had been fitted with false teeth. "Dentures were part of the dowry," was a tragic commentary on the level of dental health.

Australia took the first step to change this state of affairs more than a decade ago, in 1962, when the Director-General of Health visited New Zealand to study the pioneering school dental nurse scheme there and returned to Australia enthusiastic about its accomplishments. In 1965, Tasmania launched its school dental nurse service, and in 1966 South Australia enacted an amendment to the Dentists Act to authorize the provision of dental care to school children by persons with specified training and employed by the government.(42) Western Australia was the next state to adopt this approach. In 1967, the National Health and Medical Research Council issued a landmark report endorsing development of school dental services staffed by New Zealand-style dental nurses.(43) (The report pointed out that almost every dentist in New Zealand sends his children to the school dental nurse for treatment). In New South Wales, dental nurses trained in New Zealand are authorized to provide care, and they have functioned in screening services provided to school children. New South Wales, where the ratio of dentists is one to 2,257 people, was planning to organize a comprehensive school dental services program when the Labor government made the development of school dental services a priority for the nation. To launch this effort, a national conference on the Australian School Dental Service was held in 1973, with delegates from all the states and the Australian government.

The main features of the Australian school dental service, as it is now being developed to provide free dental care to all school children under 15 years of age, are described as follows:

(a) the services will be staffed basically by school dental therapists working under the general direction and control of dentists;

(b) the program will be implemented gradually, with the target of covering all primary school children by 1980 and then expanding to cover secondary school children under 15 years of age and pre-school children;

(c) the services will offer free dental care and treatment to each child at least once a year;

(d) dental health education will be regarded as an integral part of dental care and will be provided to all school children; and

(e) treatment will be provided at school dental clinics, of either fixed or mobile design, which will be located, if at all practicable, at the schools.(44)

The national program calls for establishment of 2,500 school dental clinics with 5,000 surgeries. (A surgery is a set of equipment that can be used by one therapist.) Currently, each state has one dental nurse training school in operation or under construction, and additional schools are being planned. Equipment, which costs about $4,000 per surgery, is now being installed in 15 training schools. In 1974, 200 students will be enrolled in the first year of the two-year program, and the number of first-year students will rise to 600-700 by 1978. A key feature is control of the training by the employing authority, the state health department, as described in the next chapter, so that the training can be well adjusted to the service needs. A national diploma is envisaged to allow for mobility of school dental therapists among the states.

The functions of the school dental therapist include examination of the mouth, filling both deciduous and primary teeth (restricted to amalgam, resin, and silicate), removal of dental calculus, cleaning and polishing of teeth, fluoride applications, extractions of primary teeth and, in some states, of permanent teeth, dental health education and other preventive services, and detection of malocclusion.

Supervision is provided by a dental officer and by a senior dental nurse therapist (or dental nurse supervisor), but it is not a constant, over-the-shoulder process. The dental therapist works under the general direction and control of a dentist, who is available for consultation and emergencies and who visits the surgery at appropriate intervals. During these visits he recalls patients to examine their mouths and to review records. The senior dental nurse therapist, or dental nurse supervisor, provides surveillance of non-clinical matters, including records, health education, attitudes towards patients, and cleanliness.

The federal government is supporting the great bulk of program costs. It pays 100 percent of the costs of training, including living expenses of students, 100 percent of the costs of construction and equipment for the school dental clinics, and 75 percent of the operating costs of the clinics.

For a better understanding of this remarkable manpower innovation, it may be helpful to describe some of the features of the Tasmanian and South Australian school dental services. These are the programs that have been in operation for the longest periods of time and are, in a sense, the models for extension of the program to the whole country.

School Dental Nurses in Tasmania

Tasmania has both dentists and school dental nurses who provide dental care for school children. District dental officers are employed by the Health Department to provide care in 19 country districts, but four of these posts are vacant. In addition, Tasmania has 33 school dental nurses working in 13 static clinics in or near schools and in 14 mobile caravans. Each nurse is responsible for the dental care of 500 children, and a mobile caravan is used where there are not 500 children in one place. The dental officers and school dental nurses may provide care for children up to age 16, but at present only primary school children – and then only 15,000 of the 60,000 primary school children – are cared for by dental nurses. When enough dental nurses are trained, all children up to age 16 will be served.

The dental nurse in Tasmania does dental examinations with a mirror and probe, restores carious teeth with plastic media of amalgam and silicates in anterior and posterior dentition, primary and secondary, does extractions of primary and secondary teeth, provides dental health education, does fluoride applications and prophylaxes, and administers local anesthetics. Unlike the dental therapist of South Australia, the school dental nurse in Tasmania is not permitted to take X-rays.

Supervision is provided by three inspections per year of school children who have been treated by the dental nurse. The chief dental officer, who does these inspections, is also available for consultation. In addition, the nurse may consult the district dental officer in her district, although he has no supervisory control over her work. This arrangement was instituted so that the school dental nurse would have clinical freedom to make a decision, based on the standard procedures that she has been taught to do in a uniform way, but she would also have a reference point for assistance, if needed.

In addition, dental nurses return to their training school for refresher work, as needed. Seminars are held at the dental nurse training school, and dental nurses are brought back for these seminars after their work has been inspected or to be taught new procedures or modifications of old ones. This practice serves as a form of control of the quality of the work.

There is great satisfaction with the care provided by dental nurses. Their performance of the standard procedures that they have been taught to do in a prescribed way is considered excellent. The nurses are beloved by the children. The parents are pleased with the care, and no children in Tasmania go to private dental practitioners. In order to ascertain the mothers' opinions of the care provided, a tape recorder was placed in a private office, so that the mothers could record their comments anonymously. All the comments were favorable. The reputation of the school dental service is high, and there is a waiting list for admission to the dental nurse training school.

When asked about the relative cost of using dental nurses as compared with dentists, in view of the short working life span of dental nurses who leave after a few years to get married and raise a family, an official of the Tasmanian Health Department replied that the question was irrelevant because dentists are simply not available; if they were, they would not be content to do this kind of work in the volume required. Scholarships have been offered to Tasmanians to study dentistry, and only two students were recruited in this way. The ratio of dentists to population has worsened while doctor-population ratios have improved. Dental nurses are used not only because they are more economical than dentists, but also because they provide effective coverage of children's dental needs.

School Dental Therapists in South Australia

In South Australia, where fluoridated water is available to 70-75 percent of the population, 52 dental therapists and 10 supervising dentists in 1973 treated nearly 25,000 patients at 27 static clinics in primary schools. In addition, 16 dental therapy students in the second year of the course, together with teaching staff, treated nearly 2500 children at the teaching clinic in Adelaide. With six dentists treating 2100 patients in mobile clinics, 17 percent of primary school children received attention (390 per operator). In 1974, the number of dental therapy students admitted tripled – from 16 to 48 – and a further increase to 64 is anticipated. By 1985, it is expected that all children under 15 will be served.

In South Australia, dental therapists perform all the functions permitted for school dental nurses in Tasmania and, in addition, therapists expose and process intra-oral radiographs. The original legislation passed in 1966 required the dental therapist to work under the "immediate" supervision of a dentist, but in 1971 the word, "immediate" was deleted from the statute.(45) In South Australia each child is examined by a dentist annually, but the South Australian requirement for supervision accords with the national view of the school dental therapist that if she is properly trained, it is sufficient if an adequate sample of patients is audited by the dentist.(46) Each patient does not need to be seen by a dentist at each visit. In fact, as was found in New Zealand, this degree of independence gives the school dental therapist a certain professional pride in her work that contributes to its high quality.

Evaluation of the short-term results of care in South Australia indicates that school dental services have reduced the average number of teeth with untreated decay from 7.5 to 1.5. Intermediate-term results indicate that the number of teeth with untreated decay is reduced markedly by treatment at primary school but that a major problem is discontinuance of dental visits after eligibility for school dental services has ceased. Assessment of long-term results is planned.(47)

The costs of school dental care were estimated for 1971 and 1972 and compared with hypothetical fee-for-service costs based on dental fees in the schedule of the Repatriation Department. The cost of school dental care was found to be within acceptable boundaries, and it is expected that the cost of care per child will decrease as fluoridation reduces the rate of decay and as treatment eliminates accumulated disease.(48) Ultimately, it is estimated that the average annual cost of care per child will be a maximum of Austr. $18.

It has been suggested by some that dental therapists may be a more expensive form of manpower than dentists in view of their relatively short working life span and their somewhat lower productivity. Investigation of this issue may be a purely academic exercise, since, as mentioned, Australians believe that it would be impossible to train and recruit enough dentists who would be willing to do this kind of work. Nevertheless, examination of the economic factors, as reflected by the South Australian experience, reveals the following:

1. The total cost of educating a dentist (5 years) is $40,000, and the total cost of educating a dental therapist (2 years) is $15,600.
2. A dentist has a working life span of 30-40 years, so that the cost of his education may be amortized at about $1,000 per year. A dental therapist has a working life span of 8 years, based on New Zealand experience (although Australia hopes to improve retention and recall), so that her education may be amortized at somewhat less than $2,000 per year.
3. The average annual salary of a regional dental officer is $14,000, and the average annual salary of a dental therapist is approximately $6,000. If the annual amortization of the education costs is added to the annual salary, the annual cost of a dentist is $15,000 and of a school dental therapist is $8,000.
4. Although dentists tend to work more rapidly than dental therapists and therefore are more productive, for the procedures which the therapist is trained to perform she is only slightly less productive than the dentist, by about 10 percent, averaging all types of procedure. This is much less than the differential in costs.(49)
5. Finally, in a team operation in which six dental therapists work with one regional dental officer (the current ratio in South Australia), the average annual salary per operator is $9,000 (and this figure declines as the number of dental therapists per regional dental officer increases). This figure should be compared with the annual cost for a dentist of $15,000 mentioned above. Thus, the cost of a team of six therapists and one dentist is $63,000 ($48,000 plus $15,000), whereas the cost of a team of 6 dentists (eliminating one member of the team to take account of the higher productivity of dentists) is $90,000 (6 X $15,000). These figures explain the conclusion of Dr. Roder that, on the basis of existing salary scales plus training costs, and assuming a working life span of 8 years for therapists and 30 years for dentists, the cost per operator of teams of therapists (with one dentist-supervisor) is estimated at one-third less than for dentists alone.(50)

This economic analysis, one must repeat, has to be viewed in the light of the reality that dentists are not available to provide this care and that there has been full satisfaction with the quality of the work done by dental therapists. External examiners of the School of Dental Therapy in South Australia and the evaluation unit of the South Australian Public Health Department in the field have both found that the quality of care provided by dental therapists is excellent. In fact, one wonders why the same principle could not be applied to adult dentistry, using dental therapists for relatively simple procedures that do not require the sophistication of a dentist.

Dynamics of Change

When queried about the dynamics of bringing about this significant change in use of dental auxiliary personnel, health leaders in Australia admit that the dental profession was initially opposed to introduction of the school dental therapist. Gradually, however, as the impossibility of meeting the dental needs of children in any other way became clear, the profession came to accept and endorse the idea.

Fears on the part of some dentists that the school dental service would adversely affect their practices have proved groundless. In South Australia, the school dental service was first introduced in country areas, and a survey of dentists in nine country towns showed that their practices did not suffer. Also, dentists were reassured that school dental nurses would never be in competition with private practitioners because the law allows them to work only as employees of the Health Department. Interestingly, it was found in New Zealand that children, who had become accustomed to regular dental care from the school dental service (and during adolescence from a private dentist paid on a fee basis by the government), sought dental care as adults from their private dentists on a regular basis.

The first stage of acceptance of the school dental therapist came in South Australia in 1961 when the state branch of the Australian Dental Association endorsed the plan. The second stage of acceptance came a decade later in 1971, when the Australian Dental Association nationally recognized four classes of dental auxiliary personnel – dental chairside assistants, dental hygienists, dental laboratory technicians, and school dental therapists.(51) The dental profession participates in development of policy on the school dental services program through the Dental Advisory Council of Australia, established to provide consultation to the Commonwealth Minister for Health.

In the past, Australia has not had dental hygienists in the American sense, except in the armed services. New South Wales is now beginning to train an oral hygienist in a 12-month program, and such a dental auxiliary is also viewed favorably by the dental profession in Tasmania. Increasingly, Australia has been looking to "dental teams" to meet its pressing dental needs. In this approach, the dental profession has demonstrated remarkable responsibility in recognizing that it could not, unaided, cope with the widely prevalent dental disease in children. It has, therefore, come to support unequivocally the development of a school dental service staffed by dental therapists and dental officers.

Throughout this review of innovative functions of health manpower in Australia, references have inevitably been made to the training necessary to prepare personnel for these new functions. These special training programs have been developed, of course, within the context of the over-all educational system of Australia, which differs in many respects from that in the United States. To appreciate the configuration of this over-all system, we shall have to step back and review the general pattern of primary, secondary, and tertiary education in Australia, and the main characteristics of the programs for education of all the principal types of health manpower. This will be the subject of the next chapter.

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Chapter Four

EDUCATION OF HEALTH MANPOWER

Education of health manpower in Australia is characterized by far greater governmental sponsorship and support than is the education of health personnel in the United States. Not only the vast majority of primary and secondary schools but virtually all universities, colleges of advanced education (explained below), and technical schools in Australia are public institutions. The six Australian states have legal responsibility for provision of education within their boundaries, with consequent differences among the states, but increasingly the Australian government has recognized the national interest in promotion of education.(1)

In 1963-64, the federal government spent $68 million or 1.6 percent of its budget on education; by 1972-73, this percentage had increased to 4.3, reaching 6.9 percent of the national budget in 1973-74.(2) In 1974, the newly elected Labor government gave dramatic evidence of this national concern by instituting full federal financing of all tertiary education, including universities, colleges of advanced education, and technical colleges.(3) An understanding of the education of health manpower in Australia requires first some description of the general educational system and then analysis of the several segments of the educational and health service systems that prepare various kinds of health personnel.

The basic Australian educational system consists of primary and secondary schools, followed by tertiary education or other post-secondary or adult education. Tertiary education comprises (a) universities, (b) colleges of advanced education, including teachers' colleges, institutes of technology, and specialized colleges, and (c) schools for technical and further education. Beyond these foundations in the educational system, health service settings also provide training programs. Hospitals, health departments, and health centers are involved in training various kinds of personnel, in addition to their principal functions for health services. In the field of postgraduate specialist training and continuing education, professional associations, particularly the Royal Colleges in the medical specialties, make important contributions.

Primary and Secondary Education

Most Australian children enter primary school at 5 years of age, although they are not required to go to school until age 6. Primary school extends over 6 to 7 years, depending on the state's requirements and the school's organization. Secondary school begins at about age 12 or 13, as an automatic progression from primary school, and continues for 4 to 6 years.(4) The state governments finance all public primary and secondary schools through the 12th grade.

State-wide examinations at two stages in secondary school are the general pattern.(5) The "Intermediate" or "Junior Examination," usually given after 4 years of secondary school, qualifies a student for a technical school and trade courses, for an agricultural college, and for a registered nurse training program in a hospital. The second stage, the "Leaving" or "Senior Examination," is the test for final graduation from secondary school and is accepted for matriculation to a university or college of advanced education (although some such college courses are less demanding). In some states, a further year of schooling is required for university entrance. Thus, the usual preparation of a student for vocational or technical education consists of 6 years of primary school plus 4 years of secondary school. For entrance to a university or a college, the requirements are generally 6 years of primary school plus 6 years of secondary school.

Tertiary Education

Tertiary education includes three types of institutions – universities, colleges of advanced education, and technical colleges or schools (called "technical and further education"). In the past, this whole level of education was funded largely by the states with subsidies from the federal government, but today all tertiary education is entirely federally funded. Tuition is free, and living allowances are also granted under the Tertiary Allowances Scheme on the basis of a means test.(6)

University Education

The 16 Australian universities (additional universities are planned or under construction) offer degree courses in various fields of three to six years' duration. A major difference between health manpower preparation in Australia and that in the United States is that in Australia a student is admitted directly from secondary school to a particular faculty of the university, such as medicine or dentistry, not to a baccalaureate program that is preliminary to professional school. In the past, universities also offered diploma and certificate courses in paramedical fields, but, in general, these have been raised in level to degree standard or transferred to other institutions.(7) The total undergraduate university population in Australia in 1972 was 128,000.(8)

Among the health professions, only medicine and dentistry are exclusively university programs in Australia. Pharmacy is a university program in two institutions – the University of Sydney and the University of Queensland, the other pharmacy programs being in three colleges of advanced education and an independent college of pharmacy.(9) Dietetics is offered at ten universities and at three colleges.(10) The only university programs in the rehabilitation therapies – physical therapy, occupational therapy, and speech therapy – are at the University of Queensland. Until recently, educational programs for social workers were only in universities, but colleges of advanced education are now preparing social workers in four-year programs. Two universities – the University of New South Wales and New England University – offer a degree program in science or arts combined with nursing training at an affiliated hospital. Thus, professional training for allied health professionals is generally not university-based, although there are some university programs for most categories.

Medical Education. Australia has nine medical schools, including Flinders University in South Australia, which admitted its first students in 1974. Each state has at least one medical school, and three states each have two. The medical schools now in existence and the years in which they first enrolled students are:(11)

University of Melbourne	1862
University of Sydney	1883
University of Adelaide	1885
University of Queensland	1936
University of Western Australia	1957
University of New South Wales	1961
Monash University	1961
University of Tasmania	1965
Flinders University	1974

Additional medical schools are planned; Newcastle in New South Wales will admit its first class in 1977, and James Cook in Townsville, Queensland will be the first medical center in the tropics in a remote area, with its first class planned for 1980.

Entry to medical school is almost entirely on the basis of secondary school grades and the matriculation examination. In three universities the limitation on enrollments has been applied at the second year level, with selection based on results in certain science subjects taken in the first year.(12) In 1974, however, the University of Queensland abolished this system of open admission as untenable, since some students who had passed the first year of medical school were not permitted to go on solely because of the shortage of places.

Traditionally, the medical curriculum has been of six years' duration, like the English curriculum on which Australian medical education was essentially modelled. An additional year of internship is required for registration in all six states. At the University of Adelaide, formal instruction is completed in five years, and the sixth is an "apprenticeship" year.(13) Recently, the University of Sydney and the much younger University of New South Wales, both located in Sydney, have introduced five-year curricula, plus the additional year of internship prior to medical registration. Other universities are being challenged to follow suit. Both Australians and observers from outside the country have called this change the most significant development in health manpower education in Australia.

The second oldest medical school in the country, the University of Sydney, broke the ice in decreasing the length of undergraduate medical education by restructuring its curriculum to teach the basic sciences across topics, with some clinical correlation, and to integrate the academic and hospital work around body systems.(14) Some work in the basic sciences was dropped, but the clinical subjects were not reduced significantly. A great deal of repetition was eliminated; the example is given that ulcerative colitis will no longer be explained separately by surgeons, by internists (called "physicians" in Australia), and by psychiatrists. The students will begin to see patients in the first term of their third year instead of in their fourth year, and perhaps earlier if the logistics can be worked out.

At the University of New South Wales, the change to the five-year curriculum also involves integration of the subjects taught and early introduction to patients.(15) The first year will contain chemistry, physics, biology, and introduction to clinical studies in the first session and anatomy and physiology in the second session. In the second year, the physical aspects of disease and some community medicine will be taught. In the third year are the paraclinical sciences. The fourth year will all be in the hospital, with five terms of eight weeks each, and the fifth year will also be clinical. The details of only the first two years have been worked out, but it is clear that the overall curriculum will provide integrated clinical teaching – not surgery and medicine, as such, but rather treatment of patients, extending the teaching of physiology and other basic sciences into clinical teaching.

In general, it is stressed that the change at New South Wales will be accomplished by eliminating the irrelevancies in chemistry and physics and the minutiae in anatomy. The full cadaver dissection will be replaced by instruction from models, and anatomy will be taught in the process of instructing in surgery. Some time is saved by reducing vacations. The result is that the total weeks of instruction constitute less than six customary "academic years" but more than five.

Not all universities, however, look favorably on the five-year curriculum at this time. The University of Melbourne recently undertook a review of its medical course and decided to introduce curricular changes, but to retain three years of work in the premedical and behavioral sciences and a further three years in the clinical sciences. In the future, if registration is postponed until two years of clinical work in university-affiliated hospitals is completed, then, as recommended by the Royal Commission on Medical Education in Great Britain, 1965-1968 (Todd Report), the undergraduate clinical years might be reduced from three to two.(16)

Other curricular innovations in medical education involve strengthening the teaching of behavioral science and community medicine. At the University of Adelaide, one of the oldest medical schools, a full course in behavioral science is offered in the first year. At the

University of Sydney, a full-fledged Department of Behavioral Science has been established, and a minimum of 120 hours of this field will be required. In fact, all medical schools are giving increased emphasis to the teaching of behavioral science. In partial explanation of this emphasis, it may be noted that the Australian medical student, who enters medical school directly from secondary school, is, on the average, three years younger than his American counterpart and has not had the courses in sociology or psychology customarily included in the pre-medical curriculum in the United States. Nevertheless, even if the entering students were older and more mature, the emphasis on behavioral science would probably still obtain, for Australian medical education is pursuing a strong social approach to medicine in new departments of family practice and community medicine.

In virtually all Australian medical schools, the teaching of social and preventive medicine – known by different names among the schools – has acquired high priority. The pioneer such program was under Professor Douglas Gordon at the University of Queensland (Brisbane). Today, in five of the six years at that school, the students have substantial exposure to social medicine concepts. Within these is included instruction in "family practice," through field assignments with selected general practitioners in year V. Another school-wide teaching strategy is the assignment of a major "study project" on some problem selected by the student in years IV and V. A high proportion of the subjects chosen are problems like drug abuse, abortion, mental retardation, infant mortality, or similar topics with prominent social dimensions. Even when purely clinical or laboratory-oriented topics are chosen, the students usually seek statistical consultation from the Department of Social and Preventive Medicine, adding to the appreciation of this essential tool for social analysis.

At the University of Adelaide Medical School in South Australia, the same field is formulated as "behavioral science and community medicine." In year I, a substantial 189 classroom hours are devoted to behavioral science and statistics. In addition, there is instruction in genetics and early exposure to ward rounds and to a general medical practice. Years II, III, and IV offer community medicine through a series of "special projects," such as "trauma," "cancer in the family," sports medicine," "sex in society," or others. The deliberate strategy is to get across social concepts through work-up and discussion of clinical cases; with each clinical subject, input is arranged from specialists in epidemiology, psychiatry, and rehabilitation. In year V, a solid 6-week period is devoted to community medicine, built around assignment to one of two teaching health centers in low-income districts of Adelaide. Year VI includes placement of each student with both an urban and a rural general practitioner for 10 days, plus numerous assignments to observe local health departments, home care units, family counselling services, and so on. In the Adelaide medical school, with a psychiatrist currently serving as dean, there are close links between psychiatry and community medicine. Student reception of the field has been found, by survey techniques, to be very good.(17)

The University of New South Wales, with one of the newer medical schools, has, as mentioned, shortened its curriculum from the traditional six down to five years by streamlining the basic sciences and introducing some clinical studies even in year [illegible]. Its intention is to build up community medicine, although this professorship was not yet filled in 1974. The School of Health Administration on the same campus provides a wide variety of courses in social aspects of health services, and medical students may elect to take courses at this School.

At the University of Melbourne, a Department of Community Health is just being established, under which will be teaching in primary care, as well as distinctly social subjects like epidemiology, health economics, and health service organization. But even now, through the Department of Psychiatry, students have been getting some instruction in the early years in social psychiatry and social medicine (interpreted mainly as epidemiology). It is noteworthy that student demand has played a large part in the decision to expand community medicine teaching here.

Monash University, with the newer medical school in Melbourne, Victoria, has a well developed Department of Social and Preventive Medicine, where epidemiology, statistics, and health service organization are systematically taught. There is soon to be established within this department a professorship of family practice, which will emphasize the psycho-social aspects of day-to-day clinical medicine. Monash, like the other schools, is also working on the development of community health centers for ambulatory care as teaching locales.

The medical school of the University of Tasmania (Hobart) is also planning to give much more emphasis in coming years to behavioral sciences and community medicine. At present, the Anatomy Department, strangely enough, contains an anthropologist and the Psychiatry Department a sociologist, but the Professor of Community Medicine is being appointed in 1975. Here again, the plan is to integrate the teaching of family practice with community medicine.

Flinders University Medical School, which is just getting under way at the outskirts of Adelaide in South Australia, is, symbolically, making its first key appointment the Professor of Primary Care and Community Medicine. From the start of year 1, medical students (the first class starting only in March 1974 contained 43 percent women) will be brought into contact with general practitioners, and contact with community medicine will continue throughout the curriculum. Teaching affiliations with community health centers will be maintained. Epidemiology and public health organization, it is intended, will be integrated with the teaching of clinical subjects.

The obviously expanding emphasis on social medicine and family practice throughout Australian medical schools comes about not simply by the temper of the times, but by specific policies of the Australian Universities Commission. The A.U.C., as a deliberate policy, has given the universities relatively large awards earmarked for Departments of Community Medicine. The Commission's reasoning is that teaching an appreciation of the social dimensions of every clinical problem will generate more and better family doctors than establishing medical school Departments of General Practice.(18)

Moreover, the use of community health centers as settings for teaching community medicine, in the A.U.C. strategy, can demonstrate forcefully to the student the value of teamwork with many allied health personnel to broaden the capacities of the primary doctor.

Innovations are occurring in teaching methods as well as in content of the curriculum. Use of audio-visual aids, small tutorials, individual reports, and group projects are all viewed as promising changes.(19) Carrels are being built in some schools to permit students to work at different paces, and ultimately methods of self-instruction may be adopted. Progressive assessment of students through frequent, small examinations, instead of large year-end examinations, are thought to be constructive teaching techniques. Self-examinations may be adopted. Student assessment of faculty members, reported only to the individual faculty member at first, are being tried as a means of improving teaching.

Both the curricular changes and the innovations in teaching methods are directed towards integration of teaching. Although empirical evidence on the benefits of integrated teaching is limited, it is pointed out that logic and experience support the view that bright students integrate diverse materials in their own minds by any method of teaching. Integration facilitated by the teacher is, therefore, directed to the average student.

All medical education, it should be reiterated, is federally financed, so that tuition is free for all students from low-income families and those in financial need also receive living allowances. Since clinical instruction in Australia is provided in the last three years of the six-year curriculum at teaching hospitals affiliated with medical schools and in university clinical departments, analysis of the costs of medical education is complex.(20) Comparison with costs in the United States is difficult because of differences in the two educational systems, particularly the years of clinical training provided by the teaching hospital. One finding, however, is relevant. For schools with an intake of more than 100, the average cost to the university of producing a medical graduate was approximately Aust. $20,000 at 1973 salary and cost levels. The cost of such training at schools with lower intakes than 100 was from 40 to 160 percent greater than the average for the larger schools.(21)

Dental Education. Like medicine, dentistry is also taught only in universities in Australia. There are five schools of dentistry, with some 1300 students enrolled in dental undergraduate courses.(22) Since Australia has a very low ratio of dentists to population, as noted earlier, the increased number of dental graduates in recent years (182 in 1971), after a declining output of dental practitioners in the previous decade, is a hopeful sign.(23)

The dental curriculum is a five-year program. Although dental students are generally trained independently, there is a growing recognition that they should have the experience of working with dental assistants and dental mechanics throughout their training. Each state has a "dental hospital" where poor people receive dental care and especially complex dental problems are handled. This hospital, which provides mainly outpatient care despite its name, also serves as a training ground for dental students.

No first-hand examination of dental education was undertaken in this study because a major international investigation of dental manpower development and dental practice is being conducted by the World Health Organization under a contract with the U.S. Departmental of Health, Education, and Welfare.(24) Australia is one of the countries included in this international collaborative study of dental manpower systems in relation to oral health status, and therefore consideration of dental manpower is concentrated here on dental auxiliaries, discussed elsewhere.

University Education of Other Health Professionals. Other health professionals are prepared both in university programs and at colleges of advanced education, as mentioned. One field in which the preparation is mainly in universities (at 10 universities and 3 colleges of advanced education) is dietetics. A three-year, full-time course, with a major in nutrition, biochemistry, or physiology, is required plus a 12-14 month postgraduate course in dietetics.(25) A student may also obtain a professional qualification as a dietician by undertaking a one-year postgraduate course, following an appropriate science course, at four large hospitals and at two universities. In addition, two universities offer master's and doctor's degrees in nutrition and food science.

Social workers are also generally prepared in four-year university programs, but this is beginning to change. Seven universities and four colleges currently offer programs in social work. Two additional universities plan to start social work programs in 1975. A recent development, however, is the decision to launch four-year courses for social workers in colleges of advanced education. Until now, colleges of advanced education have prepared welfare officers in two-year, full-time courses and have offered a four-year, part-time course for personnel from government departments to be trained as "welfare cadets." In addition, it is planned to initiate a two-year, full-time course at colleges of advanced education to train a level of social worker between the fully qualified professional and the welfare officer. State public service boards are defining these new personnel as "social work associates."

University programs also exist in the fields of pharmacy and optometry, and at one university there are basic programs in the rehabilitation therapies, as mentioned above. In general, however, undergraduate teaching for the allied health professions is developing in colleges of advanced education as a deliberate policy recommended by the Martin Report (Chapter 13) in 1964. Therefore, educational programs for the allied health professions will be discussed in conjunction with colleges of advanced education where most of these programs are located.

In the universities, of course, are postgraduate programs in various fields. For example, a two-year postgraduate Social Administration Diploma course is given at Flinders University, but all teaching in social work at the undergraduate level in South Australia is conducted by the South Australia Institute of Technology, a college of advanced education.(26)

Finally, two schools for training administrators of health services are university-based. At the University of Sydney is a School of Public Health, long supported directly by the federal Ministry of Health. At the

University of New South Wales is a recently established (with the aid of the Kellogg Foundation) School of Health Administration, emphasizing the training of hospital administrators. Both these schools are in the process of important developments to adjust to changes in the health service system (see Chapter Six).

Financing, Administration, and Planning. The Australian Universities Commission, a statutory body appointed by the Minister of Education, makes reports to the Minister that are tabled directly in Parliament. The A.U.C. has considerable autonomy and wide responsibilities. It advises the Minister on financing of education and approves funding for university programs. It reviews and approves all university programs and courses. It engages in special studies and inquiries. It coordinates its activities with those of analogous federal bodies for colleges of advanced education and for technical and further education. It monitors the growth of university education. All universities make their submissions to the Commission well in advance for a three-year period, the submission for the triennium 1973-1975 having been made by 31 December 1970. Thus, ample time is available for review of proposed courses by the A.U.C., although these time strictures may inhibit flexibility in development of university programs. This national government mechanism is an important method for providing integrated administration of university education and for developing educational policy for the whole country. (See Chapter Five under "Accreditation of Educational Programs.")

Colleges of Advanced Education

More than 80 colleges of advanced education with a total undergraduate population of about 80,000 constitute a growing "state college" system that provides a wide variety of educational programs. "Advanced education" in this context signifies studies beyond secondary schools as an alternative to the more scholarly milieu of the university. Most paramedical personnel, as allied health personnel are called in Australia, receive their basic professional training in colleges of advanced education, with certain exceptions noted below. Great dynamism characterizes these colleges as they seek to expand their enrollments, upgrade their courses, add new curricula, and strengthen their ties with service institutions and the world of work generally.

Colleges of advanced education are a relatively recent development. In 1964, following an inquiry into the pattern and development of tertiary education generally, the Martin Report recommended establishing there "colleges of advanced education" as an alternative to universities.(27) Finding a general shortage of adequately trained paramedical personnel (except pharmacists), the Martin Committee specifically recommended that education for paramedical disciplines be provided in senior technical colleges or in paramedical colleges.(28) Since 1965, when the enabling legislation for colleges of advanced education was passed, existing technical institutes have been upgraded and new colleges have been created. These colleges are of several kinds. They may be large, multi-disciplinary metropolitan institutes; smaller, often single-disciplinary metropolitan colleges; multi-disciplinary, non-metropolitan colleges; or small, single-disciplinary country colleges.(29) Health personnel are generally prepared in large, multi-disciplinary institutes, in single-disciplinary, specialized colleges, or in newly emerging paramedical colleges. About 4,000 students are being trained in various paramedical fields at any one time.

Designed to offer courses that are more vocationally oriented than those in universities, colleges of advanced education have the purpose of increasing the range of opportunities for tertiary education, with emphasis on practical application and community orientation.(30) One way in which these colleges widen the options for tertiary education is by maintaining flexible entry standards. Many students are attracted to tertiary education who do not have the full secondary school qualifications required for university matriculation. Actually, many students in the colleges of advanced education have completed 12 years of schooling and passed the matriculation examination, and some of the programs demand this level of education as a pre-requisite; but the dominant thinking is that matriculation results should not be the sole criterion for entry to colleges of advanced education.(31)

As might be expected in a new and evolving educational system, programs of disparate length and depth are offered for a single discipline or for comparable disciplines. Programs may result in a degree, in a diploma, or in a certificate. These variations are in addition to the different settings — both university and college — for the preparation of the same type of health personnel, mentioned earlier. In order to promote consistency in the nomenclature used for academic awards in advanced education and to develop meaningful relationships between courses and their awards, the Australian Council on Awards in Advanced Education was established in December 1971. Its work, which is discussed more fully in Chapter Five, will assist the rationalization of educational programs and development of a balanced national pattern of education.

In view of the multiplicity of educational programs for numerous kinds of health professionals, with varying pre-requisites, curricula, duration, and awards, it may be helpful to describe the principal features of the educational programs available for selected allied health professions. The health professions thus surveyed include the following: pharmacy, optometry, chiropody (soon to be called podiatry), the rehabilitation therapies (physiotherapy, occupational therapy, and speech therapy), medical laboratory technology, radiologic technology, and nursing (at the college level).

Pharmacy. Two universities (University of Sydney and University of Queensland) and four colleges of advanced education (South Australia Institute of Technology, Western Australia Institute of Technology, Victoria College of Pharmacy, and Tasmanian College of Advanced Education) offer three-year, full-time programs in pharmacy, followed by 12 months' practical training in a community pharmacy or hospital under supervision before registration.(32) South Australia and Western Australia award diplomas for their three-year courses, and all the other programs award the degree of Bachelor of Pharmacy.(33) (Actually, in Victoria degrees are awarded not by the college but by the Victorian Institute of Colleges, discussed below.) The two universities also offer a Ph.D. program. The Victorian College of Pharmacy, which is owned and operated by the Pharmaceutical Society of Victoria, participates in a collaborative pharmaceutical graduate research program with the University of Kansas that results in a joint degree.(34)

About 1,250 students are enrolled in pharmacy programs at any one time, and the six programs graduate about 400-450 pharmacists a year, approximately half of whom are women. Since, as noted in Chapter Two, Australia has an especially high ratio of pharmacists to population – about one to 1,000 population, compared with one to 1,600 in the United States – the schools generally impose a quota on admissions. In South Australia, for example, a quota of 50 new entrants was imposed for the first time in 1967. It was reduced to 35 new entrants in 1968, and the Shea Report has recently recommended that this quota remain for the next ten years until the current surplus of pharmacists will have been reduced to a supply comparable to that of the United States and Great Britain.(35)

Opinion is divided as to the future development of pharmacy education in Australia. One view is that the course is too concentrated as a three-year course and that four-year basic courses, exclusive of practical training, are likely in the near future in several Australian states.(36) Another view is that the three-year program is adequate for community pharmacy but that for research a four-year academic program is essential.(37) The Victorian College of Pharmacy maintains close ties with the Department of Pharmacology of the University of Melbourne, and there is some feeling that pharmacy itself should be a university course everywhere. Probably the dominant view, however, is that pharmacy education should continue to be provided in colleges of advanced education with their strong vocational emphasis.

Optometry and Vision Care. Optometrists are prepared in three or four-year programs at the University of Sydney (School of Applied Physics and Optometry), at the University of Melbourne (Department of Optometry), and at the Queensland Institute of Technology (School of Applied Science), a dynamic college of advanced education. In Queensland, the plan is to expand the current three-year program in optometry to a four-year program with a graduate diploma, because the three-year program has necessitated some dilution of the basic science teaching in order to accomodate the necessary clinical experience.

In 1973, these three programs produced 39 graduates, and 65 graduates are anticipated in 1977.(38) The proportion of women graduates has increased; in the last eight years, between 30 and 50 percent of the graduates in optometry have been women.

The Australian Optometric Association recommends that steps be taken to increase the number of graduates in optometry to 75 per year to restore past manpower ratios deemed workable and 97 per year to produce a minimally acceptable ratio in the future.(39) The considerable number of applicants for the three programs, in excess of the number of places set by the quotas, indicates that an available manpower pool exists.

Other types of personnel for vision care are also prepared in colleges of advanced education. The School of Orthoptics of the recently established New South Wales College of Paramedical Studies has a two-year, full-time course in orthoptics leading to a diploma. The Orthoptic School of Victoria, controlled by the Victorian branch of the Orthoptic Board of Australia, also offers a two-year diploma course. Enrollments in these two courses are small – about eight each year in each school. The Royal Melbourne Institute of Technology has a four-year apprenticeship course in Optical Fitting and Surfacing, but in other states optical mechanics are prepared in technical schools under the Department of Technical Education, with usually a five-year apprenticeship in the industry.

Chiropody. Two colleges of advanced education (South Australia Institute of Technology and Western Australia Institute of Technology) and the Australian Chiropody Association College in New South Wales provide three-year, full-time courses in chiropody for students who have generally completed 12 years of schooling and certain science requirements. In 1976, a three-year course will be offered at the Queensland Institute of Technology. These programs result in a diploma or an advanced certificate. About 75 percent of chiropodists in Australia, as noted earlier, are women.

The Rehabilitation Therapies. With respect to physiotherapy, occupational therapy, and speech therapy, the recommendation of the Martin Report that paramedical studies be undertaken at colleges of advanced education has been implemented, with one exception. All basic education for these professions is in colleges of advanced education, except in Queensland, where these programs were originally established as part of the Faculty of Medicine of the University of Queensland and have remained there, despite the growth of a dynamic School of Applied Science within the Queensland Institute of Technology. Generally, all these programs require completion of 12 years of secondary school, or university matriculation, and offer instruction of tertiary level and clinical experience of three or more years.

Four colleges offer diploma programs of three years' duration (or a little longer) in physiotherapy – New South Wales College of Paramedical Studies, Lincoln Institute in Melbourne, South Australia Institute of Technology, and Western Australia Institute of Technology. The University of Queensland offers a four-year degree program to which a maximum of 95 students are admitted in the first year. This program involves substantial clinical practice throughout the course, with students entering the hospital for observations in the first year, for demonstrations in the second year, and spending every morning in the hospital in the third year and 12 weeks full-time in the fourth year. In addition to these fairly similar programs, it is possible at two institutions to take a one-year diploma program following a science degree. A master's degree program is also offered at the University of Queensland.

The South Australia branch of the Australian Physiotherapy Association has recommended expansion of basic training in physiotherapy to four years in order to encompass all the new knowledge and techniques.(40) Perhaps more training would result in higher pay and thus serve to retain more trained physiotherapists (most of whom are women) in active practice.

The same five institutions that provide training in physiotherapy also offer programs in occupational therapy. These programs require a minimum of three years of full-time, post-matriculation study, including a year of clinical training. As in the case of physiotherapy, the student of occupational therapy is introduced early to clinical practice – earlier than in the United States, according to one expert who knows both systems. Another important difference between the curriculum in Australia and that in the United States is that in Australia the clinical practice is a part of the curriculum for which the University is responsible, rather than a post-degree requirement for practice, as in the United States.

Speech therapy developed fairly recently in Australia, with the first speech clinics established in the early 1930's. It is taught at two colleges of advanced education – New South Wales College of Paramedical Studies and Lincoln Institute in Melbourne – and at the University of Queensland. A minimum of three years of post-matriculation work is required, including clinical experience. Since no course in speech therapy is available in South Australia, the government of that state has provided "cadetships" – scholarships, including living and traveling allowances, to enable students to study out-of-state and then return to work in South Australia. In 1969, five places in the Lincoln Institute's program were thus assigned to South Australia.(42)

Medical Technology. Seven colleges of advanced education – one in each state and two in New South Wales – offer programs in medical technology with varying entrance requirements, of different lengths, and awarding either a degree or a diploma. Most of the programs require two or three years' full-time study, but there are part-time courses as well and "sandwich" courses alternating full-time study with full-time employment.

At the Queensland Institute of Technology (School of Applied Science), the medical technology program is a degree course of either three years' full-time or six years' part-time work. The three-year curriculum has one year of basic science (chemistry, mathematics, and physics), one year of applied science (biochemistry, physiology, cell biology, histology), and one year of clinical subjects taught from an applied point of view. There are virtually no liberal arts subjects in the curriculum. Students admitted to this program must have a grade point average sufficient for university entrance or higher. All the clinical work is supervised by the faculty. The Queensland Institute of Technology also offers a course for laboratory technicians, and it is possible to progress from technician to technologist with additional training. A master's degree program in medical technology is also offered, but at this college the principal emphasis is placed on producing a highly qualified medical technologist who can work anywhere in Australia or abroad.

Radiologic Technology. Radiographers and radiotherapists are trained in colleges of advanced education in some states (Victoria, Queensland, South Australia, and Western Australia) and in technical schools under Departments of Technical Education in others (New South Wales and Tasmania, although Tasmania plans to transfer the teaching in this field to a college of advanced education). In both settings, the courses require three years, involving both academic and clinical work. Pre-requisites for admission are, for most programs, the equivalent of university entrance, and, in addition, the student must be employed in a radiology department approved for training by the Conjoint Board of the Royal Australasian College of Radiologists and the Australasian Institute of Radiography. The catalogue of the Royal Melbourne Institute of Technology states that entrance to the diploma courses in medical nucleography, medical radiography, and medical radiotherapy is restricted to trainees who are employed in approved clinics or hospital departments. In South Australia, full-time tutor radiographers are being developed to supervise the training of students in the field. For students outside the capital cities, the External Studies Division of the Royal Melbourne Institute of Technology provides the academic training.

Nursing. Education of professional nurses in Australia is in transition. Until now, all basic nursing education has been hospital-based, but the plan is to transfer nursing education from hospitals into colleges of advanced education over the next decade.

The first basic nursing course in a college began only in February 1974 at the College of Nursing, Australia, in Melbourne, with the admission of 18 students.(43) This college is a national institution, with branches in Queensland and Western Australia, but its funding comes through the State of Victoria. Another three-year diploma program is starting at the New South Wales College of Paramedical Studies in Sydney. Also in New South Wales, the Newcastle Technical College provides the theoretical instruction for nursing students in several nearby hospital schools of nursing – a kind of half-way approach to a college program. At least three more college-based nursing programs will be initiated soon, and it seems likely that nursing education may move into the educational mainstream more quickly than the estimated ten-year timetable indicates.

Post-basic nursing courses (i.e., after three years of hospital training) have long been offered at the college level. These are postgraduate courses, six months to one year in length, that result in a diploma in a specialized field. At the College of Nursing, Australia in Melbourne, such post-basic courses are offered in nursing administration, nursing education, hospital nursing and ward management, operating theater nursing and management, and intensive care nursing and ward management.(44) The important new course in "community health nursing" to train nurses for work in community health centers is such a one-year, post-basic diploma course. The Queensland and Western Australia branches of the College of Nursing, Australia offer some of these courses. The New South Wales College of Paramedical Studies offers post-basic diploma courses for trained nurses in nursing administration, nursing education, operating theater management, and community health nursing. In South Australia, a diploma course in nursing education is starting at a college of advanced education to train teachers of nursing and to improve the skills of nurses now engaged in teaching. More and better nursing instructors constitute one of the critical needs.

Financing, Administration, and Planning. The recent impressive growth of colleges of advanced education is partly related to the action of the Australian federal government in assuming full financial responsibility for the operating costs of all tertiary education. Before January 1974, the system of matching grants, based on different formulae for capital and operating expenditures, resulted in the states' providing about 60 percent and the federal government's providing 40 percent of the financing for colleges of advanced education. Now the funding is fully federal.

The Australian Commission on Advanced Education is the federal agency charged with advising the Minister for Education on financing of colleges of advanced education, surveillance of the system, and promoting its balanced development. As an educational agency setting guidelines for accreditation of courses, it assures that the courses meet two standards – that they are all of tertiary level and that they meet a community need, provide a basic skill, or have a vocational character.

Despite the single, national source of funding, there is great diversity among the colleges and among the states. Nowhere is this more apparent than in education of allied health professionals, who are prepared in separate programs, in schools of applied science within colleges of advanced education, in specialized colleges of pharmacy or nursing, or in the new paramedical colleges.

Formal core curricula have not yet been established for different allied health personnel, but some shared or common courses exist or are planned at nearly all institutions. Not only the paramedical colleges but the institutes of technology that train several kinds of health personnel recognize the opportunity for and benefits of combined courses. At the University of Queensland physiotherapy students take anatomy jointly with the medical students, and a course in psychiatry is planned for students in occupational therapy and social work jointly. In South Australia, the first year of pharmacy and medical laboratory technology are identical and in total have about 60 percent common ground.(45) In discussing the future, both educators and health service administrators anticipate development of basic courses from which students will "stream off" into specialized fields.

In each state, an official body, appointed by the state government and operating with staff and advisory committees, serves as the accrediting and coordinating agency for colleges of advanced education. In Victoria, this body is the statutory Victorian Institute of Colleges, and the corresponding body in other states is usually the Board or Council of Advanced Education. These organizations, which are discussed more fully in Chapter Five, were all established between 1965 and 1972. They are concerned not only with accrediting educational programs but with planning, developing, and coordinating tertiary education at the college level.

Technical and Further Education

This level of education, called TAFE, is training following primary or some years of secondary school (other than under the Australian Universities Commission or the Australian Commission on Advanced Education) that is conducted by institutions administered by a governmental education authority.(46) The programs offered are organized vocational programs, designed to develop technical skills. TAFE is predominantly for mechanical and related trades; a small share of its courses, however, relate to the health field. The distinguishing features of technical colleges are their adult students, usually between the ages of 18 and 24, part-time attendance, and study supplementary to job holding.(47)

Technical education is deemed an alternative to other higher education. Since January 1974 it has been federally funded as part of the tertiary education system, although in the past a strict definition of tertiary education was that following six years of secondary school. One factor in the decision to provide federal funding for technical education was the "subtle but insistent pressure" to upgrade certificate courses to tertiary level in order to attract federal funding, resulting in a "tendency to produce fewer technicians at the lower and intermediate level whilst Australia, in common with other western countries, continues to suffer a shortage of these technicians to back up the technologist."(48) Federal funding of technical education thus contributes to a balanced system of education.

In most states technical and further education is under the Department of Education which is responsible to the Minister for Education. In South Australia, the Department of Further Education, as it is called, reports to the Minister of Education. It includes both technical studies and adult education. The technical studies are federally funded and adult education is funded through a combination of nominal fees and state subsidies.

New South Wales has a somewhat different system. Its Department of Technical Education is separate from the Department of Education but responsible to the same Minister. It offers 500-600 courses in 30 different administrative units, which are called "schools."

In the health field, technical colleges train dental mechanics or dental technicians, dental assistants, public health inspectors, and various kinds of medical and laboratory technicians. The following are examples of certificate courses offered by the New South Wales Department of Technical Education, generally to persons working in related employment:

Nuclear Medicine Technician
    4 years' training in use of radioisotopes, following 4 years of high school
Pathology Technician
    4 years' training in histology, hematology, clinical chemistry, and microbiology following 4 years of high school
Higher Pathology Technician
    2 years' part-time training for persons who have completed the Pathology Technician's course.

The New South Wales Department of Technical Education does not require that students be employed in the field while they are taking a technical course, but it recommends such employment. In this way, theoretical material is taught concerning how and why certain techniques are used, and this learning can then be reinforced on the job.

As would be expected with an educational system that has long been a state responsibility with limited help from the federal government, technical education varies considerably from state to state. Thus, the same kinds or levels of technical courses may be taught in one state in colleges of advanced education and in another state in technical colleges. This disparity is on the verge of change. One of the recommendations of the Australian Committee on Technical and Further Education, a distinguished national group that examined the totality of technical education, was that the states draw up a list of equivalent course qualifications and publish accounts regularly of their progress in reviewing and adapting their courses.(49)

The TAFE report recommends strengthening and expansion of technical and further education. The Committee estimated that enrollment by the end of the 1880's would reach 150,000. It recommended that special attention be given to the needs of migrant youths (immigrants), married women, para-professionals in middle-level occupations in industry and commerce, and to training for local employment in view of geographic mobility. The proposed Australian Commission on Technical and Further Education, analogous to the Australian Universities Commission and the Australian Commission on Advanced Education, would be concerned with financing, statistics and occupational trends, buildings and equipment, and general policy governing technical education. As one state expert on technical education said, "Implementation of the TAFE Report will enable us to build additional colleges, to modernize equipment, to improve courses, and to advance into fields where technicians are now working but courses do not yet exist."

Educational Programs of Health Agencies and Facilities

In addition to their primary function of providing or administering health services, health agencies and health facilities are involved in important and varied educational programs. State health and hospitals departments or commissions, individual hospitals, and the newly organized and mushrooming community health centers are the principal service agencies involved in training various kinds of health personnel.

State Health Agencies

State health agencies conduct or sponsor extensive educational activities for development of their own staff (which is discussed below in connection with continuing education) and for training personnel to work in general hospitals, mental hospitals, health centers, and other health facilities. Since, as mentioned in Chapter One, Australia has virtually no local health departments, these activities are organized at the state level. Where regionalization of state health activities is well advanced, as in New South Wales, training programs are the responsibility of the regional health authority.

All the states are involved in numerous training programs, and we present here only a few examples. In Victoria, the Hospitals and Charities Commission, which is in charge of all hospitals and charitable institutions registered under the Hospitals Act, provides two to three-week courses at its own training center, with practical experience in hospitals, for operating theater technicians, ward supervisors, hostel supervisors, and ambulance officers. The Mental Health Authority of Victoria provides on-the-job training for psychiatric nurses and more intensive course for volunteers providing round-the-clock "personal emergency advice service."

In Tasmania, the Department of Health is involved in training two types of nursing personnel – child health nurses, who are registered nurses with midwifery training and six months' training by the Health Department, and Mothercraft nurses, who are at the level of nurse's aides (in the American sense), trained in care of young children. Mothercraft nurses will probably be replaced by personnel trained to work in pre-school centers, under a program funded by the federal government.

In South Australia, the Department of Hospitals and Mental Health Services has undertaken three innovative training programs. For its domiciliary care scheme, the Department trains paramedical aides in a 22-week program, with exposure to the four disciplines of nursing, social work, physiotherapy, and occupational therapy; these aides are then attached to one of these four fields for work with the elderly. Mental health visitors were prepared in the past by the Department in 12-month programs of in-service training (three months of theoretical work and nine months of practical experience). The candidates selected were people without formal education but with much life experience, and they proved to be very successful. Since they were not eligible for a satisfactory salary from the Public Service Board and had no career structure, the last group of such mental health visitors has probably been trained, and in the future colleges of advanced education will be training welfare officers to perform these functions. The most recent training program of the Department is that for community health nurses, who will have one year of training following basic nursing education, as preparation for work in community health centers.

At the regional level, the Western Metropolitan Health Region of the New South Wales Health Commission, serving an area with more than a million population, has undertaken an imaginative training program to assure the personnel for inpatient and community health services, needed for a rapidly growing area hampered by limited resources. For example, community health nurses are being trained in crash programs of eight weeks – one week in a multi-disciplinary orientation program for all personnel in a health center, one week in the field, two weeks' theoretical work in community health centers, and four weeks in screening and other procedures needed by nurses in school-based community health centers. A regional nursing school is being planned, and a new school for training dental nurses will be located in the region. Training programs in this dynamic region are designed with flexibility (each of the eight-week training programs for community health nurses has differed slightly) to match the health programs as they are developed.

The most significant training programs of state health agencies are probably those for school dental nurses. In 1965, the National Health and Medical Research Council, in proposing development of a dental auxiliary to provide dental care for school children along the lines of the New Zealand scheme, recommended that training for school dental nurses be provided in an appropriate governmental instrumentality, not in university dental schools.(50) This has been done.

School dental nurses have been trained in Tasmania since 1966 and in South Australia since 1967. Western Australia initiated its program in 1971.(51) Plans had been made in New South Wales for a state-funded dental nurses' training school when the national Labor government in 1972 decided to give high priority to the dental health of school children and committed substantial federal funding to this program. The federal government provides 100 percent of the cost of the capital outlay and 100 percent of the operating costs of the schools; it also provides 100 percent of the outlay for establishing a field district service and 75 percent of its operating costs. As a result of this recent federal initiative, schools now exist or are being built in all six states. There will be 200 students in dental nursing in 1974, rising to 600 to 700 first-year students by 1978.

In Tasmania, the Department of Health Services runs the School for Dental Nurses, which provides a two-year course for students who have completed secondary school. There are three applications for each place. The first year is mainly theory, and the second year is practical. The course is divided into four divisions of six months each, with instruction in the following subjects: dental anatomy, general anatomy, histology, physiology, use and care of equipment, operative dentistry, general pathology, materia medica, dental surgery and pathology, local anesthesia and extractions, clinical records, history and ethics of nursing, child welfare, orthodontics, operative dentistry, dental health education, and organization and administration. In addition to class examinations, qualifying examinations are held at the end of each six months. A final examination – written, oral, and practical – is given at the end of the second year by a Board of Examiners that includes private dental practitioners and the principal of the School for Dental Nurses. After the dental nurse assumes her post in a school clinic, she is brought back to the School for Dental Nurses periodically for seminars and to learn new techniques, as needed.

The South Australian Department of Public Health operates the School of Dental Therapy in Adelaide, which admitted 48 students in 1974 and plans to admit 64 students in 1975. Students, who have passed the matriculation examination for university entrance, undertake a two-year curriculum in three overlapping programs in social and preventive dentistry, dental science, and clinical dentistry. Therapists are trained to provide most of the routine needs of children, including dental examinations, temporary and permanent fillings, prophylaxes, topical fluoride applications, dental x-rays, local anesthetics, extraction of primary teeth, and dental health education.(52) A key feature of the education of dental nurses in South Australia and, in fact, throughout Australia – a feature that underscores the safety and effectiveness of this type of dental auxiliary – is that school dental nurses are authorized and trained to perform certain defined procedures in dental care and to perform these procedures in carefully prescribed ways. Moreover, the provision of training by the authority that employs and supervises the dental nurses permits the educational program to be tailored to the service needs.

Hospitals

In Australia, hospitals are involved in four main types of educational activity: (1) training of nurses; (2) providing the clinical component of training for undergraduate medical students and the allied health professions; (3) providing the clinical component of technical education; and (4) various sorts of on-the-job training. In addition, of course, hospitals are the setting for postgraduate education in the medical specialties, a subject discussed below in connection with specialist training.

Training of Nurses. Until 1974 when the College of Nursing, Australia started the first college program for professional nurses, all basic nursing courses have been hospital-based. These are three-year courses which result in award of a certificate. A pre-requisite for admission is generally 10 or 11 years of general education, but many students have 12 years or the requirements for university entrance. The curricula are prescribed by the state nursing registration boards, which also accredit the schools. Basic nursing courses are offered in general nursing and also in various specialties – psychiatric nursing, mental deficiency, and geriatrics. The basic courses available, the length of training required, and the qualifications that are registered vary from state to state.(53)

In addition to the basic nursing courses, post-basic certificate courses leading to registration are provided for midwifery, maternal and child health, and other specialties. From this practice come the expressions, "double-certificated nurse," who is one with a basic certificate plus a certificate in midwifery, and "triple-certificated nurse," who is one with basic training plus midwifery, and maternal and child health. Again, the post-basic courses leading to registrable qualifications vary among the states.

Additionally, there are post-basic certificate courses that do not lead to registrable qualifications. Such short courses include instruction in cardiac thoracic care or pediatric nursing in Queensland or other specialties in other states.

These three levels of nursing education – basic education, post-basic courses for registrable qualifications, and post-basic courses for non-registrable qualifications – are all provided by hospitals. (Some post-basic courses are provided by colleges too, as mentioned above.) The duration and requirements for each of the courses differ among the states, and the complexity is compounded by the order in which the various qualifications are sought, e.g., whether a nurse with a general nursing certificate wants to obtain a qualification in psychiatric nursing or whether a nurse with a basic certificate in psychiatric nursing wants to add a general certificate.

This over-simplified description of hospital-based nursing education may be sufficient prelude to an explanation of the reasons for the movement to shift nursing education to colleges of advanced education. Three main reasons are impelling this change. First is the desire for an improved quality of nursing education. The large number of hours spent by the nursing student in patient care is no longer deemed sufficiently educational to warrant this time investment by the student. Nor is this service considered efficient staffing for the hospitals. Moreover, one nursing leader pointed out that there might be less attrition from the profession if students were trained in academic programs (rather than into "indentured servitude") and were then eager to go out in practice. The second reason for the change is the enormous drop-out of nursing students from hospital nursing schools. Over the three years, there is an average of 60 percent drop-out or wastage of nursing students, as compared with a 40 percent drop-out from teachers' colleges. It is expected that attrition will be less in a college-based system of nursing education. The third reason is the erratic system of financing the multiplicity of hospital schools of nursing through the budget of the state Minister of Health. New diploma nursing programs in colleges of advanced education would presumably be funded by the federal government as tertiary education and thus provide a firm financial underpinning for nursing education. This shift in funding will probably be associated with the more economical and effective use of facilities and staff in fewer, regional schools of nursing.

The second-level nurse in Australia is known by different names in different states – nursing assistant, nurse aide, auxiliary nurse, and enrolled nurse. The term, "enrolled nurse," which is probably preferred, comes from the legal requirement that the names of these nurses be entered on a roll kept by the nursing registration board. They are not "registered," as professional nurses are, but "enrolled."

The enrolled nurse is trained in a hospital apprenticeship program of 12 months. Like the licensed practical or licensed vocational nurse in the United States, the enrolled nurse has assumed responsibility for a large share of patient care. With the conversion of education of registered nurses to a college system, the plan is to expand the length of training of enrolled nurses to two years in order to prepare them to replace student nurses in the hospitals. For example, the last one-year auxiliary nurses have been trained in Tasmania. The two-year program will be introduced there in 1976. Nursing leaders are examining various curricula with a view to strengthening preparation of this level of nursing personnel and reinforcing the career structure in the field.

Clinical Component of Health Professions Education. An important contribution of hospitals is their participation in undergraduate medical education and in training of allied health professionals.

No university in Australia controls a hospital. The new university at Flinders in South Australia will have an arrangement that approximates that of a university medical center, but, in general, clinical experience for medical students is provided in autonomous teaching hospitals that are affiliated with medical schools. One of the serious problems in medical education in Australia is the number of patients available for teaching purposes. Private patients – either those above the means test or "intermediate" and declared to be private or those who are patients of private doctors on a service without interns or residents – are available for teaching purposes only under exceptional circumstances. Both the numbers and the clinical mix of public patients may not be adequate. For example, the three teaching hospitals affiliated with Monash University have the same number of beds as 20 years ago but a five-fold increase in residents and a doubling of the student population. Moreover, there may be a disproportion of trauma cases in these large, sophisticated hospitals and insufficient numbers of the more commonplace conditions – appendicitis and hernias – that tend to go to private hospitals. It is felt that more hospital beds, more university control of teaching hospitals, and the rationalization of hospital facilities through regionalization would help solve this problem.

Many kinds of allied health professionals receive some of their training in hospitals – pharmacists, dieticians, physiotherapists, occupational therapists, speech therapists, and social workers. The character and length of the training received varies for the different professions and for the same profession among the different schools and hospitals.

Two features of this variable clinical component should be mentioned. One concerns the roles of the academic instructor and the hospital professional in providing this clinical component of education. As mentioned above, the clinical component for physiotherapy and occupational therapy are generally integral parts of the academic program which must be completed before the end of the course – not post-graduation requirements for credentialing, as in the United States. In accord with this characteristic, the tendency in Australia seems to be towards increased participation of the academic instructors in the clinical component of education. In many places, supervisors from the schools go to the hospitals with their students, although over-all supervision of the work rests, of course, with the hospital staff.

The other notable feature concerns the financing of this component of education. In general, the hospital has absorbed the cost of this training on the basis, presumably, that allied health professionals will be available to staff the hospital's services. (Allied health professionals have been in short supply generally.) But this is beginning to change. In Tasmania, the university provides a small maintenance grant to the teaching hospital, based on the number of medical students – a token contribution that enables the hospital to buy some item of equipment. In Queensland, a joint university-hospital standing committee is being established to examine costs and determine the best method of paying for clinical training.

Clinical Component of Technician Education. As mentioned above in connection with technical education, it is common in Australia for technologists of various kinds to work part-time and go to school part-time. In fact, some of the technical schools recommend or require that the student be employed while studying. For example, many students in laboratory technology spend a day a week at the Royal Melbourne Institute of Technology and are employees of the hospital the rest of the week. Similarly, radiographers may be employed as trainee technicians and be released for formal lectures.

On-the-Job Training. As in the United States, hospitals train many kinds of aides and assistants on the job, though perhaps fewer in kind and numbers than in America. Some of the types of workers trained on the job are nursing attendants (nurses' aides in the United States), physiotherapy aides, occupational therapy aides, pharmacy aides or assistants, diet aides, splint makers, surgical boot makers, surgical instrument technicians, plaster cast technicians, and electrocardiograph technicians. This training may be initiated by the hospital, or an occupational group or association may establish a training program and then seek formal recognition of it.

Health Centers

On a much smaller scale than hospitals, health centers also provide training for health personnel. Community health nurses receive field training at health centers, and rehabilitation therapists assigned to health centers are being reoriented for service in the community, rather than in institutions. Community health centers also serve as the setting for training doctors in family medicine (see below). Since health centers are fairly new, their full potential for training has not yet been explored. In the Western Metropolitan Health Region of Sydney, a health center is being planned that will have explicit service and teaching functions. Perhaps this kind of demonstration will show the capacity of health centers to train members of the health team for provision of primary care.

Postgraduate Education

Australian universities have developed postgraduate schools fairly recently. In the 1950s, with anticipated expansion of the universities, Ph.D. programs were developed, with science disciplines taking the lead.(54) From these programs emerge personnel in the biological and physical sciences who may work in the field of health services. Postgraduate programs are also offered in social work, in health administration, and in a few other health professions. In nursing, specialist training in post-basic courses is provided at hospitals and colleges of advanced education, since the first basic nursing course in a college has just begun, as discussed earlier.

Postgraduate Medical Education

In the field of medicine, postgraduate specialty education is the province of universities, of hospitals and their medical staffs, and of voluntary professional societies. In general, university medical schools offer advanced degrees and postgraduate diplomas to those who plan to engage in teaching and research, while hospitals and professional societies are concerned with preparation for specialist practice.(55) The multiplicity of courses of training in postgraduate medicine, with their varying requirements, duration, and awards in each specialty is reflected in a publication of the Australian Postgraduate Federation in Medicine, a coordinating body for Postgraduate Committees affiliated with medical schools.(56) For example, with respect to ophthalmology, one can learn where five university-based courses are offered, as well as the identification of 28 hospitals where approved specialist training may be obtained in this field. Among the functions of Postgraduate Committees are collection and dissemination of information about postgraduate education and involvement in the Intern Matching Service for appointment of interns. The work of the National Specialist Qualification Advisory Committee in assessing specialist qualifications and in working towards uniformity in this field is discussed in Chapter Five.

Principal responsibility for postgraduate training of medical specialists in Australia, as in the United States, rests with voluntary, professional societies called "Royal Colleges" or simply "Colleges" in the various specialties. (The distinction between a "Royal College" and a "College" is purely formal, a Royal College having applied to the Crown in England for permission to use the adjective, "Royal," in its title.) These Colleges, which are analogous to the specialty boards in the United States, set standards for training in the specialty, approve training posts or training programs, and conduct the examinations for specialty qualifications, which may be either a diploma or fellowship in the College.

In addition to professional Colleges, Australia also has professional associations in various fields that are political bodies, affiliated with the Australian Medical Association. Thus, in the field of surgery, there are both the Royal Australasian College of Surgeons and also the Australian Association of Surgeons. Approval of residency posts or programs in Australia is the function of the appropriate College, whereas in the United States this function is performed jointly by representatives of the American Medical Association's Council on Medical Education and the relevant specialty board or boards.

A prominent issue in Australia in recent years has been the organization of and requirements for postgraduate specialty training in medicine.(57) Differences in the length and quality of the training required in the various specialties have led the four main Royal Colleges* to discuss the possibility of adopting a new system of training. Under the proposed plan, the first year of postgraduate training would be the internship year required for registration, followed by two years of "basic" postgraduate training, which it is hoped will be common to all specialties, and then three or four years of training in the relevant specialty or sub-specialty, which is called "vocational" or "postgraduate" training. Persons in their basic postgraduate training are to be called "residents," and those in their advanced training "registrars," thus providing a mixture of the American and British terminology. It has also been suggested that the year of internship be merged with the years of basic training (as recommended by the Millis Report in the United States) to provide a continuum of postgraduate training.(58)

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*Royal Australasian College of Surgeons, Royal Australasian College of Physicians, Royal College of Obstetricians and Gynecologists, and Royal Australian College of General Practitioners.

This proposal has not yet been agreed to by all the Royal Colleges, but the new scheme is already in operation in some specialties. For example, in surgery, postgraduate specialty training used to take four and a half years, but it has now been extended to seven years, thus assuring opportunity for adequate surgical experience. The medical graduate completes his internship, undertakes two years of general surgical training, and then pursues three or four years in an approved post in general surgery, orthopedics, otolaryngology, or another sub-specialty. In the last year of his postgraduate work, he takes the examination of the Royal College, which consists of written, clinical, and oral parts, and then is awarded fellowship in the College on completion of his training.

The proposal for a uniform system of postgraduate medical specialty training is linked to the move to shorten the undergraduate medical curriculum to five years, discussed earlier. In the past, universities were clearly responsible for undergraduate medical training and the professional Colleges for advanced training.(59) Supervision of the years of internship and basic training has not been well-defined; but if universities were to contribute to the training of doctors during their internship and basic training years, then the five-year curriculum would be more widely acceptable.

Another aspect of postgraduate medical training involves its financing.(60) Customarily, the universities finance undergraduate medical education, and state governments, through their financing of hospitals, pay the salaries of residents and registrars, who are employees of the hospitals and, in fact, are selected by them. Introduction of the new system of postgraduate training may involve altered financial arrangements, perhaps payment of preceptors from educational budgets, as is being done in the Family Medicine program, administered by the Royal Australian College of General Practitioners.

Family Medicine. The innovative Family Medicine program, mentioned in earlier chapters in connection with discussion of general practitioners, was launched in 1973 with a grant of more than Aust. $1 million from the Australian government to the Royal Australian College of General Practitioners. The program provides postgraduate training in family medicine for four categories of doctor — second and third-year residents following the internship; fourth and fifth-year advanced residents; women graduates returning to practice; and overseas medical graduates.

The program involves two years of basic training following the internship year in medicine, surgery, pediatrics, obstetrics and gynecology, psychiatry, and anesthesia in hospitals, preferably in smaller hospitals. The advanced training of two years takes place in an approved general or family practice or other approved setting (such as in a health department for a period of time), where the trainee becomes a co-worker of the family practitioner or a staff member of the agency.(61) During this period of advanced training the doctor works as a "junior associate" in the practice, but he also has time for further study. He does special projects, and he attends weekly discussion groups during all four years on topics chosen by the trainees. A general practitioner in the area acts as group leader for these sessions. In each weekly group in the Sydney area, about ten trainees participate in these meetings, which are generally held at hospitals, often with the wives of the trainees also attending.

The Royal Australian College of General Practitioners accredits both the hospitals and the medical practices for training. Each practitioner who accepts a trainee receives a teacher training course and throughout the program is involved in training sessions arranged for all the preceptor-practitioners in an area, for the group leaders, for the hospital supervisors, and for other resource personnel who serve the program. Area coordinators, whose function it is to see to it that doctors in their areas receive proper education, arrange these on-going training sessions.

The program is funded by a subsidy paid to both the trainee and the practitioner. The trainee receives a salary equivalent to that of other hospital residents. In years 3 and 4, the practice pays 50 percent and the Family Medicine program 50 percent of the trainee's salary. The practitioner receives an amount equal to 50 percent of the trainee's salary during the first two years as a stipend for his teaching services, an amount equal to 40 percent of the trainee's salary in the third year, and, as the trainee becomes more valuable, an amount equal to 30 percent of the trainee's salary in the fourth year. Studies show that the practitioner generally loses money in his practice when he takes on a trainee. He may have more time with his patients because of the assistance in his practice, but that does not necessarily generate more income.

About 240 trainees are currently enrolled in the Family Medicine program throughout Australia. In New South Wales, there are currently 75 enrolled in all four years. It is hoped in that state that the program will grow to 150 new entries a year, but this is not at all certain.

The key feature of this imaginative program is the use of family practitioners as preceptors, rather than academic personnel. Medical school professors participate in the program occasionally, but they are considered "too molecular biology-oriented." The best teachers are found to be the senior practitioners in the area, who use cases from their practices as teaching material and meet with the trainees for small group discussions.

Continuing Education

Continuing education programs in Australia are conducted under both governmental and voluntary auspices. As in the United States, programs designed to update the skills of doctors and other health professionals are many and varied, including lectures, seminars, refresher courses, self-assessment examinations, radio programs, and provision of audio-visual aids, such as tape and cassette recordings.

Current activities of the federal government are limited to provision of fellowships in various fields, publication of materials, and provision for time off for federal employees to attend courses.(62) As will be shown below, however, the Australian government is on the verge of embarking on much more ambitious undertakings in continuing education.

At the state level, each health department has a special program for staff development, although the scope of the programs differs among the states. The courses are designed not only for personnel employed by the state agency, such as medical officers seeking training in community health, but also for a wide range of personnel working in hospitals, health centers, and other facilities. Some courses are year-long, leading to a diploma, for which the employee receives a leave of absence, and others are short-term or part-time courses.

For example, the Health Commission of New South Wales has a Division of Staff Development with responsibility for over-all supervision of training activities. The administration of the program has been decentralized to the regions, so that training can be integrated with the decentralized administration of services. Most of the courses are on a released-time basis, but some are a mixture of full-time and released-time work. Another pattern is that adopted for nurses seeking training in ward administration to become charge nurses; they have five days of released-time for the course and then ten months of correspondence.

In South Australia, a Staff Development Advisory Committee works with the Department of Hospitals and Mental Health on questions of policy affecting continuing education for the many employees of the Department and for personnel working in hospitals and other institutions. In South Australia, at any one time approximately 200 public servants are receiving aid for higher education out of a total employee complement of 1200; most of these employees are allowed up to five hours' released-time per week plus travel time.

An important governmental contribution to continuing education is the work of medical schools, which are federally funded but function on a state level. Attached to each medical school is a Postgraduate Committee, composed of academic and community representatives, which arranges continuing education programs. The Postgraduate Committees draw on the resources not only of the medical schools but of teaching hospitals and medical specialty organizations.

Voluntary professional associations in virtually all fields are giving increasing attention to continuing education. For the allied health professions, the professional associations are providing various kinds of continuing education. For example, the Pharmacy Guild of Australia provides lectures and seminars, all on a voluntary basis, to its members.

In medicine, the Royal Colleges and other medical specialty organizations are active. For example, the Royal College of Physicians has made a self-assessment program available to its members and set up a committee to study the problem. The report that resulted from this work favors organization of a continuing education program on a national basis and establishment of a permanent continuing education unit within the College.(63) Among the several recommendations are two that should be specially noted — that attendance at one of the courses of the Continuing Education Unit of the College should be mandatory for every practising Fellow and that the needs of physicians in isolated areas should be met by educational correspondence, including a reporting service, visiting specialist teams, hospital refresher attachments and provision of a "locum" service. In connection with rural practitioners, a conference on continuing medical education in country areas of Victoria, held in 1971, recommended regional organization of continuing education, financing activities through a combination of private and public funds, use of clinical meetings in country hospitals, travelling workshops, and other means, and evaluating the effectiveness of programs with a view to making necessary changes.(64)

A large part of the Family Medicine program of the Royal College of General Practitioners is concerned with continuing education of doctors, as distinguished from postgraduate specialist training. The journal, *Australian Family Physician*, monographs, reel and cassette tapes, slides, closed circuit television, telephone networks, and films provided by the College are all geared to the practising doctor. The College also offers a self-assessment program called CHECK (Continuous Home Evaluation of Clinical Knowledge). Its program for re-training women doctors, most of whom graduated from medical school between 1950 and 1954, includes work in general practice, counselling, and therapeutics. There are about 1,000 women doctors to be retrained in Australia as a whole.

Despite this multiplicity of activities in continuing education under various auspices, continuing medical education has been plagued by problems. A recent report of the national Hospitals and Health Services Commission identifies the deficiences as follows: (1) participation is low (one knowledgeable doctor estimated that fewer than five percent of doctors take part in continuing education programs); (2) the design and provision of programs are unstructured; (3) the budgets and resources of the Postgraduate Committees and medical Colleges are inadequate; (4) the effects of the expansion of medical knowledge and the interdependence of health professionals are not met; and (5) the technical problems involving educational method receive inadequate attention.(65)

The comprehensive analysis of the problems of continuing medical education undertaken by the national Hospitals and Health Services Commission led to its recommendations that a formally organized and adequately funded system of continuing education for medical practitioners be established and that this system be organized and funded through the joint efforts of the profession and the Australian government. The general aims of such a system would be to increase professional knowledge and improve professional performance, so as to improve the quality of patient-care. Among its more specific aims are facilitating re-entry of married women into the work force and assisting foreign medical graduates who are having difficulty in meeting registration requirements. The key features of the proposal are that the system be formally organized on a national and area basis, with appropriate involvement of the organizations that have been involved in continuing education in the past, and that the work be adequately funded, to an order of magnitude of Aust. $3 million per year contributed by the Australian government. An important element of the proposal at the national level is to link the development of continuing education of health workers with the development of policy on health care delivery. The new organization is to be called the Australian Committee on Continuing Education.

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In conclusion, three recent developments in the Australian educational system should be underscored as of prime importance to the development of health manpower. First is the assumption of full financial responsibility for all tertiary education by the federal government. Second is the explicit and deliberate move to develop colleges of advanced education as the principal site for preparing allied health workers. Third, but not of lesser importance, is the renewed emphasis placed on the training of the general practitioner as a modern specialist in family medicine.

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(2) *The National Times*, 15-20 July 1974, p. 29.

(3) As recently as 1972, the Australian Universities Commission defined tertiary education as comprehending only universities, colleges of advanced education, and teachers' colleges, though it recognized the usefulness of the wider concept of post-secondary education covering not only tertiary education but "the whole range of formal educational activities subsequent to secondary education, including, for example trade training, sub-tertiary general education and adult education." Australian Universities Commission, *Fifth Report*, Canberra, May 1972, p. 25. Today, with completely federal funding of the full range of post-secondary formal education, technical and further education is deemed tertiary education.

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(6) The booklet, *Tertiary Allowances Scheme 1974*, published by the Australian Department of Education, describes the current scheme of financial assistance to students in approved courses at universities, colleges of advanced education, certain teacher education colleges, technical colleges, and other approved tertiary institutions, such as paramedical colleges. This scheme will gradually replace the Commonwealth University, Advanced Education, and Technical Scholarship Schemes that have existed in the past.

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(26) *Development of Training Programmes for Para-Medical Personnel in South Australia*, Report by Advisory Committee on Para-Medical Studies (Dr. B. J. Shea, Chairman), Adelaide, May 1970, p. 7.

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(31) *Id.* at p. 87.

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Chapter Five

REGULATION OF HEALTH MANPOWER

Australia, like the United States, regulates its health manpower through a multiplicity of mechanisms, both statutory and voluntary. In both countries, these mechanisms exert influence at various points – in the training of personnel, at initial entry into an occupation, in control of the work setting, in the operation of payment mechanism, in the inter-relationships with other elements in society (such as the judicial system), and through the functioning of voluntary professional bodies. Prominent in the Australian regulatory system are the variations among the six states in their registration statutes – much like the variations in the licensing laws of the 50 American states. But there are also significant differences between the two countries in the structure and operation of the various regulatory mechanisms and in the degree of reliance that is placed on each.(1)

Accreditation of Educational Institutions and Programs

The much larger governmental sponsorship and support of higher education in Australia than in the United States, discussed in the previous chapter is associated with governmental, rather than voluntary, accreditation of educational institutions, programs, and courses (curricula). In the past, federal grants to the states for education, and now full federal funding of tertiary education, place the federal government in the position of being responsible and accountable for certain educational standards. Actually, the federal government provides only general surveillance, and, except for universities, the actual authorizing and accrediting of programs and courses are done by state agencies. In addition, professional associations participate in accreditation, although the voluntary role is much less significant than in the United States.

Federal Role

As pointed out in the previous chapter, overall surveillance of each of the three sectors of tertiary education is provided by a separate agency of the Australian government. The Australian Universities Commission, the oldest of the three commissions, was established by statute, and the commissioner and deputy commissioner are statutory appointments (the small staff of the Commission is on civil service), so that the Commission has considerable autonomy in its advisory, consulting, coordinating, developmental, and financial functions mentioned earlier. With the rapid growth of "colleges of advanced education," the A.U.C. of necessity consults with state governments and state agencies so that "the Commission's considerations of the needs of universities should not be made in isolation but with due regard to the overall needs of tertiary education."(2) It may be noted here that the British General Medical Council still approves medical and dental schools in Australia (which means that graduates of Australian medical schools are accepted in the United Kingdom), but an equivalent Australian medical council will probably soon be formed to approve future new schools.

The Australian Commission on Advanced Education, as mentioned earlier, is responsible for monitoring the growth of colleges of advanced education. Detailed review of individual programs and courses is ultimately done by the state coordinating bodies, discussed below, but the Commission is concerned with planning, financing, and balanced development of the college system across Australia as a whole.

The third body is the new federal Commission on Technical and Further Education – TAFE, also discussed earlier, which will have responsibility for overall surveillance of technical education supervised by parallel state agencies, usually in the state departments of education.

In addition to these three basic agencies, two other agencies at the national level perform important roles in assuring the quality of education of health practitioners. The Australian Council on Awards in Advanced Education is concerned with consistent standards for degrees, diplomas, and certificates. It is a national, non-statutory body formed by agreement of the six state Ministers and the federal Minister for Education "to promote consistency in the nomenclature used for awards in advanced education and to assist in the development of meaningful relationships between levels of courses and their associated awards."(3) The Council thus evaluates the comparability of courses and awards and publishes a national Register of Awards in Advanced Education. Its rigorous guidelines for determining the level of awards concern length of the course and also its structure, emphasis, depth, and relation to other studies in the field. Registration of an award for an established course is normally for five years, but if the course has undergone a major change – a fact to be determined by the accrediting authorities – it is reviewed earlier. The responsibility of the Australian Council on Awards in Advanced Education for academic standards and nomenclature is thus designed to encourage national standards and uniformity in recognition of awards.

Another federal agency, the Committee on Overseas Professional Qualifications, was formed for the specific purpose of assembling and evaluating information relevant to recognition of diverse overseas professional qualifications,(4) but it has come to have widespread influence on the regulation of health personnel generally. (In Australia, the word, "qualifications," is used to designate specific degrees, diplomas, or other awards of educational institutions, as well as in the generic sense to describe the characteristics of credentials required for a profession or occupation.)

The Committee on Overseas Professional Qualifications or COPQ, as it is called, is advisory to the Minister of Immigration. It has no enforcement powers because authority over registration of practitioners rests with the states. Working through expert panels in each profession and with the professions generally and their regulatory bodies (both in the health professions and other fields also), COPQ has developed lists of acceptable overseas qualifications for the various professions — that is, degrees or other awards of overseas schools that are automatically acceptable in Australia.(5) For example, qualifications of British, Canadian, and New Zealand medical schools tend to be automatically acceptable in most Australian states, but for other countries only the qualifications of specific schools are recognized. Formerly, all overseas schools that had been inspected by and met the standards of the British General Medical Council were also recognized in Australia, but this is no longer true.

In the course of undertaking this enormous work of evaluating education provided by hundreds of overseas schools in nine health professions (medicine, dentistry, nursing, pharmacy, optometry, dietetics, physiotherapy, occupational therapy, and speech therapy), COPQ necessarily had to become informed about education in these fields in Australia, as well as abroad. It could not decide whether an overseas qualification was equivalent to an Australian qualification unless it was knowledgeable about Australian training. As a result, unlikely as it would seem for an immigration agency, COPQ is a mine of information about education and regulation of health manpower inside Australia. Its little pamphlets on each of the health professions are valuable sources of information on health manpower training in Australia.

Moreover, in this process of scrutinizing and comparing educational programs on an ongoing basis, COPQ and its expert panels were faced with overall questions of policy and administration. Differences among the states in their requirements for foreign medical graduates, for example, constitute a persistent issue because a foreign medical graduate who is registered in one state cannot be automatically registered in another. Each state re-examines the applicant's original qualification de novo. There is now agreement among all the states to use the American ECFMG (Educational Council for Foreign Medical Graduates) examination for screening of foreign medical graduates before departure from their own countries. Then, various requirements for practice under supervision are imposed by the states. Ultimately, a national approach to the problem of recognition of foreign medical graduates may be achieved.

Another concern of COPQ is the extension of screening examinations to foreign graduates in dentistry, nursing, pharmacy, and physiotherapy. In this effort, COPQ and its expert panels are attempting to identify the critical kinds of competence that need to be assessed. For nursing, the development of an appropriate test to identify competence in what a nurse actually can do, as well as to measure knowledge, attitudes, and skills, is the subject of a contract with the University of New South Wales. In other fields, the tests may be more intuitive and less precise. In both Australia and the United States, development of proficiency tests and of measurements of competence is at an early stage. While struggling with the technical problems of screening examinations, COPQ is concerned lest these examinations prove to be a double-edged sword — that they might eliminate candidates who would otherwise be accepted and prove to be satisfactory, particularly in fields in which Australia suffers a shortage.

COPQ's task has drawn it inevitably into the development of procedures to facilitate the regulatory process. A single application form for foreign graduates in medicine, nursing, and pharmacy is now being developed for all state registration boards. COPQ describes its own roles as both catalytic and advisory. One medical dean predicted that from the basic work of the Committee on Overseas Professional Qualificions there may eventually emerge national standards for health personnel in Australia generally.

State Role

At the state level, agencies that serve as counterparts to the Australian Universities Commission and the Australian Commission on Advanced Education launch new educational institutions, approve new courses (curricula), administer funding, and provide general surveillance of education in universities and in colleges of advanced education. The authority and organization of these state agencies differ among the states, but all reflect the common thread of state supervision of tertiary education despite full federal funding. Technical education, as mentioned in the preceding chapter, is also the province of official state departments of government.

Perhaps a more detailed look at how these state coordinating agencies for higher education function in several states may be illuminating. In New South Wales, there are three statutory groups involved in the regulation of higher education (exclusive of technical education). The Universities Board is responsible for development of new universities and new departments and for recommendations on schools and programs, but it has no control over the courses offered in universities. The Advanced Education Board is the accrediting and coordinating agency for all courses in colleges of advanced education; this Board decides whether a proposed course should be a diploma or a degree program, subject, of course, to review by the Australian Council on Awards in Advanced Education, mentioned earlier. Thus the N.S.W. Advanced Education Board may review a proposal submitted by a college for a course in orthoptics, or it may invite a college to submit a proposal for a course deemed necessary. Periodic review of all courses, generally every three years, is conducted by a team of practitioners and educators.

On the financial side, the Advanced Education Board of New South Wales recommends to the Australian Commission on Advanced Education a triennial program for operating and capital expenditures for all the colleges of advanced education in the state. This recommendation is based on the submissions of the colleges and takes into account expected growth, numbers of students, and quotas for each program. Thus, the accrediting and financing procedure begins with a course assessment committee of the state Advanced Education Board, which approves a course proposed by a college. The Board itself then acts. If the course is approved, the matter goes to the state Minister for Education and finally to the Australian Commission on Advanced Education in Canberra for approval of the need for the course, its location, and its financing.

Still another agency in New South Wales is the Higher Education Board that coordinates the recommendations of the state Universities Board and the Advanced Education Board and serves as a clearing house for new ideas. In the future, these three boards may be consolidated into a single state higher education authority. In addition, the New South Wales Department of Technical Education, responsible to the Minister for Education, operates the technical education (TAFE) programs.

In South Australia, the universities deal directly with the Minister of Education, but the colleges of advanced education report to the Board of Advanced Education, which is responsible to the Minister of Education. This Board approves every course that is offered, determines the level of courses, allocates funding, and provides over-all surveillance.

Victoria has a unique organization – the Victorian Institute of Colleges (V.I.C.), which is an autonomous, statutory body that operates somewhat like a university and awards degrees for work done in the colleges under its jurisdiction.(6) It has both academic and financial responsibilities. It decides on new colleges, purchases sites, monitors new developments in education, approves courses and budgets, and resolves differences between tertiary institutions and the professions. The procedure for approval of a new course is that the V.I.C. gives its approval in principle for a new course, the college then submits a detailed proposal containing the structure of the course, a description of its resources, and estimates of enrollments, and finally the V.I.C. accredits the course. Colleges determine that new courses are needed in various ways – by surveys of professionals, interviews of employers, and examination of budgeted vacancies; confirmation of that need is exercised at both the state and national levels. In the future it is anticipated that the V.I.C. will accredit a college or a department as a whole, but not individual courses or curricula.

The budget process in Victoria starts with a submission by the college to the V.I.C., which in turn prepares a consolidated submission based on the needs of the state as a whole. Both the submissions of the individual colleges and the aggregated ones of the V.I.C. are sent to the federal Australian Commission on Advanced Education, before it undertakes its round of visits each triennium to the six state boards as well as the 80 individual colleges of advanced education.

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Besides these specialized agencies in each state that oversee tertiary education, state control of educational programs is exercised through state registration laws for some of the registered professions. Particularly in nursing, the regulations under the registration laws sometimes specify the curriculum required in great deal. In New South Wales, in fact, a separate agency has been established to regulate nursing education, independent of the registration board. It may be significant that rigorous, detailed prescription of nursing curricula by law has not been sufficient to assure satisfactory nursing education in the face of deficiencies in the organization of education, for, as discussed earlier, Australia is on the eve of a major shift from hospital-based nursing education to a college system.

Voluntary Role

Voluntary, professional organizations are also involved in the regulation of education, but their role is less conspicuous than in the United States, where voluntary organizations are the principal accrediting agencies for allied health education. In Australia, some professional associations, particularly in fields not subject to registration, set standards for education and accredit programs. These actions do not have the force of law, but employers tend to respect these standards in their hiring policies.

For example, in the field of social work, the Australian Association of Social Workers sets "Minimum Standards for Eligibility for Membership and Minimum Standards for Schools." On the basis of these standards, the Association, working through its standing committee called the Professional Education and Accrediting Committee (PEAC), accredits individual schools and reviews course offering periodically. All graduates of accredited schools are then eligible for membership in the Association, which serves as notice to employers of their completion of approved training. Although this coluntary accreditation has no legal effect, the voice of the Association has been powerful in setting and revising educational standards and in having these standards recognized.

The Australian Association of Occupational Therapists is also involved in setting standards for education spelled out in its publication, "Educational Objectives and Minimum Requirements for Students of Occupational Therapy." The Australian College of Speech Therapists accredits educational programs and advises on qualifications in a similar way.

Another voluntary organization concerned broadly with the quality and methods of education, although not engaged in accreditation of educational programs, is the Australasian and New Zealand Association of Medical Education, a recently formed organization of deans of medical schools, medical educators, and a number of persons involved in education of paramedical personnel. The organization has both individual and institutional members. It is intended to serve as a vehicle to upgrade the quality of education for the health professions, and it has deliberately adopted a multi-disciplinary character to encourage communication and changed attitudes among the health professions, although actual innovations in educational content and methods are the responsibility of the educational institutions themselves.

State Registration Laws

In Australia, state registration laws are the equivalent of the licensing laws in the 50 American states but with significant differences. At least seven occupational categories are registered in all states – medical practitioners, dentists, nurses, pharmacists, optometrists, physiotherapists, and chiropodists – and about 20 health occupational categories or occupational specialties are registrable in at least one state. Registration is required for dieticians only in Victoria, for occupational therapists only in Western Australia, and for radiographers only in Tasmania. Chiropractors are registered only in Western Australia; the national government, incidentally, has undertaken a comprehensive study of chiropractic. Some registration statutes are mandatory and prohibit practice of the profession by persons who are not registered. Other are permissive and merely bar use of the title.(7)

Australia as a whole – with six states, two territories, and 13 million people – has 83 registration boards, functioning under varying statutory provisions, with multiple regulations, and according to different administrative arrangements. As in the United States, the dominance of the states in regulating the authority to practice has created variable, complex, and often bureaucratic requirements. There are also important differences between the Australian registration laws and the American licensing laws, as will be indicated later.

The purpose of registration laws and registration boards are defined in various ways. Perhaps it is sufficient to cite the Office of the Registrar of the Medical and Other Professional Boards of Queensland, which defines the functions of the boards as the maintenance of standards of service to the public, protection of the public against professional misconduct, and protection of both the public and the profession against unauthorized practitioners. More specifically, an important purpose is to maintain a register, or list, of practitioners authorized to practice, together with their qualifications.

Although there have been some attempts by professional groups that are not registrable to obtain registration – for example, social workers – in general Australia has not experienced activity analogous to the drive of numerous occupational groups in the United States to achieve licensed status. The feeling is strong among Australian manpower experts, such as the Commission on Overseas Professional Qualifications, that the only justification for registration is to protect the public – not to raise the status of an occupational group.

Composition and Administrative Locale of Registration Boards

No detailed analysis of the composition of the 83 registration boards could be undertaken in this investigation, but a few comments may be made on the character of the boards. The largest numbers of members of each board are generally members of the profession to be registered. In most states, the Governor or the Governor-in-Council (the cabinet) appoints the members of the boards, but in some cases they are elected through mail ballot by the profession. In Western Australia, the four dentists on the eight-member board are elected by the dental profession in this way, and in Victoria five dentists are elected and two are appointed to the seven-member board.(8) In New South Wales and other states, the registered pharmacists in the state elect the pharmacists who are members of the board.(9)

Medical practitioners are represented on *all* the registration boards, and the Australian Medical Association has an official representative on many boards, e.g., the nursing board in South Australia. The majority of members of nursing boards are nurses, but it is noteworthy that no state has a nurse as chairperson of its state nursing board. Generally, the chairman is a medical practitioner, but in Victoria the chairman of the nursing board is a lawyer. (Whether this reflects old-fashioned male chauvinism or some legal constraint is not clear.) It is common for registration statutes to include as members of the board either nominees of the State Minister of Health or officials of state health agencies or both. In Queensland, one doctor is head of all seven registration boards, and the same is true in the Australian Capital Territory.

In some states, the registration boards are part of the state public health agency and therefore included in the budget and subject to the Public Service Commission. In other states, the boards are administratively independent, but as in New South Wales, may be linked to the unified state health agency and funded by it. Despite these differing administrative locales and arrangements, all the boards seem to function in generally similar ways.

With these general comments, it may be helpful to turn first to consideration of medical registration as the prototype for state registration of all the health professions, and then to consider features of other registration laws and of the administrative mechanisms of registration in Australia generally.

Medical Registration

The Medical Practitioners' Acts of the Australian states, like the American Medical Practice Acts, create regulatory boards with power to register and keep a list of medical practitioners who meet certain requirements; they also have power to remove the name of a medical practitioner from the register for certain prohibited conduct or to impose other disciplinary measures, and to regulate practice in other respects.(10) The chief difference between the Australian and American systems is that there is no separate registration examination – in addition to medical school examinations – for graduates of Australian schools. Since all Australian medical schools are public institutions, with governmental financing and surveillance, full reliance for academic qualifications is placed on the examinations given by the medical schools. (A separate registration examination is, however, required for nursing, as discussed later.) In fact, there is no power in the registration boards to approve Australian medical schools, which are accredited, as mentioned earlier, by the British General Medical Council and may soon be accredited by an Australian body.

Registration of foreign medical graduates, however, is a different matter. Each state has different requirements for authorizing practice by foreign medical graduates and recognizes different overseas qualifications. For example, the 1970 statute in Victoria provides for immediate recognition of graduates of schools in Great Britain, the Republic of Ireland, and New Zealand, provided the medical course is at least of five years' duration. New South Wales now accepts graduates of 81 medical schools (not the total 110) in the United States. The Committee on Overseas Professional Qualifications publishes lists of the medical schools throughout the world and those qualifications that are recognized by each of the six states.(11)

The general requirement for recognition of an individual overseas graduate is that he pass the screening examination of the American ECFMG (Educational Council for Foreign Medical Graduates) body, that he complete a period of probationary service in an approved hospital setting, and that he pass an oral or clinical examination. During this period of probationary service, the foreign medical graduate may receive a "license" in some states or provisional registration in others. In New South Wales, the medical board may grant a temporary license to practise in an approved hospital for up to four years to a practitioner who is not eligible for registration. In Western Australia, the Medical Practitioners' Act authorizes a certificate of "regional registration" in under-doctored areas to one who meets certain qualifications but is not registered.(12) Temporary authorization to practise thus helps staff rural hospitals.

This over-simplified description does not reveal the complexities created by the different requirements and procedures of the several states in recognizing foreign medical graduates. The whole matter is under review, with the work of the Committee on Overseas Professional Qualifications creating an impetus for national standards for evaluating foreign medical graduates. The first step in this direction has already been taken by requiring the ECFMG examination. The next step will probably be to resolve the differences among the states on whether the candidate should then take a further examination or serve a nine-month internship before being examined.

Currently, it should be emphasized, overseas medical graduates registered in one state are not automatically eligible for registration in another state, as are graduates of Australian medical schools. Agreement on a national system would eliminate this obstacle to mobility for foreign medical graduates, who constitute a significant proportion of the nation's doctors (see Chapter Two). Accordingly, a principal activity of medical registration boards in all states in Australia is assessment of standards of overseas medical schools and qualifications of individual overseas medical graduates. Clearly, a major obstacle to a national system of medical registration in Australia lies in the differing state standards for foreign medical graduates.

In four states – Queensland, Victoria, South Australia, and Western Australia – the medical board also maintains a register of specialists.(13) In Victoria, the statute specifies the information required to be recorded in this register. Western Australia has a limited specialists' register solely for the purpose of workers' compensation. In two states – Queensland and South Australia(14) – registration of specialists' qualifications is an over-all condition for practising the specialty. In these states, where it is illegal to practise a specialty without being registered as a specialist in that field, the register serves as a control of functions and quality of care. These specialists' registers were established – the requirement was first enacted in Queensland 30 years ago – to assist the courts and workers' compensation tribunals in proceedings before these bodies and to make information on specialists' qualifications available to the general population. A roster of qualifications for the specialties maintained by the Australian government for the purpose of determining reimbursement under the national health insurance scheme is discussed later, but it should be pointed out here that state registration as a specialist, in states where this requirement exists, is a pre-requisite for national recognition.

In general in Australia, as described in the previous chapter, the learned societies (Royal Colleges) approve hospital posts for postgraduate training. In the State of Victoria, however, a unique statute was enacted, effective 1974, which assigns to the medical registration board authority to approve or accredit hospitals for the training of interns.(15) Under this statute, standards are set for training facilities, e.g., requirements for hospital libraries, education boards, and tissue committees. An accreditation committee of the medical registration board, which includes a respresentative of the voluntary Postgraduate Medical Education Committee, mentioned earlier, visits the hospitals and provides advice and help to improve the institution's resources for training. While a requirement for registration in all states is completion of a one-year accredited internship, only in Victoria does the registration board have the responsibility for approving the internship. Thus, accreditation of intership posts by the Victorian medical registration board carries the sanction of non-registration if required standards are not met.

The Australian state medical boards, like their American counterparts, undertake only a small number of de-registrations or other disciplinary actions each year. In one state, there have been about two de-registrations per year among 3,000 registered medical practitioners. In another large state, an estimated three to six suspensions of doctors occur each year, mainly for mental illness or drug dependence. A novel sanction for improper conduct is contained in the Western Australia statute, which empowers the board, in lieu of removing a medical practitioner's name from the register, to require a practitioner to give a written undertaking of good behavior for a certain period of time, and to comply during that period with such conditions relating to his practice as the Board sees fit to impose.(16)

One criticism made of the diversity in Australia's state medical registration laws is that the registers do not all provide an accurate reflection of the number of doctors in active practice, nor their specialties.(17) The registers do not show who is in full-time practice and who is not. Specialty qualifications, as noted, are registered in four states but in different ways, and they are not registered in two states and two territories. Of course, the registers do not reflect the general practitioners who are actually engaged in specialty practice or the specialists who carry out some general practice. Thus, accurate and uniform statistical information on medical manpower is not readily available from a source that has the capacity to provide much information so essential for effective planning.

Nurses' Registration Acts

State nurses' registration acts provide for the registration of general and specialized nurses and for "enrollment" of the nursing auxiliary, who is similar to the licensed practical nurse in the United States. The difference between a registered and an enrolled nurse is that a registered nurse has more education and status than an enrolled nurse. The states vary in the post-basic nursing qualifications that are also registrable. New South Wales, for example, has five registrable branches of the field in addition to general nursing. Thus, six separate registers for nurses are maintained in New South Wales – for general nurses, midwifery nurses, psychiatric nurses, infants' nurses, mothercraft nurses, and geriatric nurses.(18)

Like medical boards, nursing boards maintain the registers and rolls, administer recognition of overseas nursing programs and graduates, and suspend or cancel registration on specific grounds. In addition and unlike medical boards, they specify the actual content of curricula for each type of nurse (with detailed curricula included in the statute or the regulation)(19) and make site visits to and approve each school of nursing. (In New South Wales, as mentioned earlier, a separate board has taken over the educational functions.) All state boards devise and administer examinations for registration.(20) Separate registration examinations are required (in contrast to medicine and other health fields) because of the large number of hospital schools of nursing of varying quality that are not under the jurisdiction of governmentally-approved educational agencies. In some states (Victoria, South Australia, and Western Australia), refresher courses are required for nurses who have not practised for five years.(21)

A significant difference between the Australian and American nursing statutes is that the Australian registration statutes contain no definition of the scope of nursing practice. (Actually, scope of practice is defined only in the dentistry, pharmacy, and optometry registration laws.) The functions that the general nurse is permitted to perform are determined basically by her training and the hospital's usual practice. (The functions of specialist nurses, however, may be specified in the laws). Scope of functions for nurses is, in reality, fairly standardized throughout Australia, but two mechanisms are used to warrant expanded functions. The Nurses' Board may issue a statement of policy on the role of the nurse – for example, a statement by the Nurses' Board of Western Australia in August 1973 on the conditions under which a registered general nurse may apply the cardiac defibrillator, may give intravenous injections, may give epidural injections, and may directly dispense simple analgaesics. Or the state health agency responsible for administration of hospitals may issue guidelines or directives to the hospitals on allowable nursing functions.

As a matter of law, the only barrier to an expanded role for nurses might be the prohibition in the *medical* registration laws against the performance of a medical act by a person who is not a medical practitioner.(22) As a matter of actual practice, this prohibition does not constitute an impediment to expanded functions of nurses, who are authorized to act under the supervision and instruction of doctors. Perhaps one reason that authorization for an expanded role for the nurse does not constitute a legal issue in Australia is because general practitioners there may be more reluctant than their American counterparts to delegate tasks which they regard as their prerogative. The barrier to the expanded role of the nurse in Australia, in other words, is said to be not the nurses' registration laws but the general practitioners. Perhaps more important, the lower incidence of malpractice actions in Australia than in the United States, discussed later, may account for the lesser concern about scope of nursing practice questions.

Although each Australian state recognizes registered *general* nurses trained in other states, there is a problem relating to interstate recognition of *specialist* nursing qualifications. Each state does not necessarily recognize all the specialized nursing qualifications of other states. To resolve these anomalies and to develop uniform regulatory policies with respect, for instance, to recognition of overseas nurses, a conference of state registration authorities in nursing is held each year. A view held by some nursing leaders is that the solution to interstate differences in regulation of nurses lies in national standards agreed to by the states and in establishment of a federal registering body.

Other Registration Acts

Novel provisions in a few other registration laws may be mentioned. In dentistry, the Tasmanian statute authorizes a dental mechanic to deal directly with the public, to take oral impressions, and to supply and fit artificial dentures except where there is unhealed tissue.(23) Dentists in Tasmania approve of this role for dental mechanics and state that dentures made in this fashion are satisfactory. Victoria has recently enacted a statute authorizing dental technicians to deal directly with the public, but only for full dentures. Authorization for the functioning of school dental therapists has been effected in several states by simple amendments to the dental registration laws. In South Australia, for example, these amendments authorize properly qualified school dental therapists to practise dentistry on school children, require the dental board to keep a register of dental auxiliaries, and authorize the Governor to issue regulations prescribing the course of study and regulating the functions of dental therapists. In New South Wales, the amendment authorizes

> the doing or performing by nurses with prescribed training and attached to the Division of Dental Services of the Department of Public Health of

> such part of the practice of dentistry as may be prescribed, whilst carrying out under such conditions as may be prescribed in respect of any such part of the practice of dentistry, dental treatment provided by such Division to school children....(24)

In pharmacy, the registration laws all require at least 12 months of experience under supervision following the required academic study.(25) A new Pharmacists' Act in Victoria may contain a requirement on continuing education, as has been enacted in a number of American states.

The multiplicity of different state requirements in the statutory systems for regulating health personnel in Australia brings into question the soundness of continuing varying state standards in the governance of practice. Taking into account that some states may be in a position to require higher standards than others, one is forced to ask whether, on a cost-benefit basis, this advantage of quality protection is not offset by the chaotic or, at least, complex administrative problems created by such diversity. Perhaps the irrationality of diverse requirements is more striking when there are six states than when there are 50.

It has been suggested that the "critical power" in Australia driving toward improved preparation of health personnel and toward innovation in functions is not to be found in the statutory system of registration at all, but rather in the educational institutions and the employers. Let us turn, then, to state regulation of hospitals, the largest employers of health personnel, and later to consideration of the role of hospitals in controlling personnel directly.

Other State Regulatory Authority

The principal regulatory authority over hospitals is exercised by the states, but, first, mention must be made of the federal role in this regard. The Australian government, through various agencies, regulates directly three categories of hospitals – those located in the Australian Capital Territory and the Northern Territory, the hospitals of the Repatriation Department for ex-servicemen and women and their dependents, and hospitals operated by the armed services. Federal financing and responsibility involve indirect and direct regulation of the personnel employed in these hospitals, ranging from control by a projected Health Commission in the Australian Capital Territory to requiring that all hospital personnel be federal civil servants, as in the Repatriation Hospitals.(26) In addition, the federal government exercises indirect control over other public and private hospitals through its approval of institutions for the payment of benefits under the National Health Benefits Act. This surveillance may include requirements concerning personnel.

Each state regulates the health facilities within its borders and through this power affects the manpower in hospitals.(27) The state hospital statutes and the agencies they create vary among the states, but the general pattern is to license private hospitals and to regulate public hospitals through the financing system and the conditions attached to funding.

Licensing of private hospitals, as in New South Wales, allows the state health agency to maintain some control over staffing and other matters affecting patient care, although the principal control is over physical conditions and safety. In Queensland, private hospitals and convalescent homes must be registered, and the Minister for Health may inspect and impose conditions on continued operation. In South Australia, local boards of health are responsible for the licensing of private hospitals and nursing homes. The effect of the licensing of private hospitals on the numbers and kinds of personnel employed should not be exaggerated, however, for the principal control of private facilities is through the federal government's approval for payment of health insurance benefits.

In public hospitals, the power of the purse operates to exert controls over institutional manpower. In New South Wales, for example, under the Public Hospitals Act, the Health Commission determines which hospitals are to be subsidized, the amount of the subsidy, and the conditions to be attached to the operation of each institution.(28) The pattern is similar in other states, so that hospitals generally employ their own staffs, subject to approval of the budgeted positions by the state health agency. (In Queensland, however, the Director-General of Health and Medical Services exercises central authority over appointment of all important professional and managerial personnel in the hospital and health services system.(29) Such state authority over budgeted positions or the "establishment," as it is called, for different categories of personnel may be exercised under a state's hospital, mental health, or public welfare legislation.

A fairly recent form of state regulatory authority over personnel is that brought about by regionalization of health services. In New South Wales, regionalization is currently more developed than in the other states, where it is also occurring to different degrees, and therefore the impact of regionalization on personnel is more visible there. The New South Wales Health Commission, it will be recalled, represents the amalgamation of hospitals, public health services, and mental health services. This unification and the decentralization of functions to geographic regions has altered the manpower picture radically. Personnel who in the past worked separately in the sector of hospitals or of mental health now must work together. New responsibilities for administration and management are thrust on the regions (see Chapter One). This unification of formerly separate services, with delegation of authority to the regions, stimulates new skills, new terminology, and new ways of working together. State regulatory authority to regionalize health services has mandated implementation of the team approach.

Effects of Health Insurance System

Federal regulation of hospitals for payment of health insurance benefits, as mentioned earlier, constitutes an indirect form of regulation of manpower. The health insurance system also exerts more direct effects on reimbursement, functions, and performance of personnel.

Perhaps the most important effect of the Australian health insurance system on manpower is that it sets levels of reimbursement for medical practitioners. The schedule of "most common fees" and its operation have been described in Chapter One. Although the doctor is permitted to charge more than the most common fee, the requirement that he tell the patient what that fee is for the procedure, and the limitation of the patient's co-payment to $5 if the most common fee is charged, are intended to promote observance of the most common fee. It should be noted here that the Australian system does not provide for reimbursement of allied health personnel on a fee-for-service basis. For the services of laboratory or x-ray personnel, insurance payments are made only to the employing doctor or hospital. Personnel in the rehabilitation therapies are paid as part of the hospital or health center budget. If their services are provided in other ways, the patient pays privately, but can deduct the total payment from his income tax.

Reimbursement of specialists, through their identification as such, is also regulated by the health insurance system. Moreover, the allowance of a higher specialist fee if the patient is referred by a general practitioner than if he comes to the specialist directly tends to promote this judicious use of highly trained manpower.

In order to determine who is a specialist entitled to be paid a specialist's fee under the National Health Benefits Act, the National Specialist Qualification Advisory Committee draws up lists of the medical specialties and approved postgraduate qualifications.(30) The holders of these qualifications are then entitled to recognition as specialists under the health insurance system. In states where a specialists' register exists, such registration is required for national recognition, as mentioned earlier. A Specialist Recognition Advisory Committee in each state determines specialist status for each applicant, and a national Specialist Recognition Appeal Committee was established to handle appeals from these determinations. There were about 300 appeals from practitioners who were denied specialist status when the Appeal Committee was first established. This system of recognizing specialists was necessitated by the lack of nationally uniform registration of specialists and by the lack of uniformity in recognition of Australian and overseas specialist qualifications.

The lists of recommended medical specialties and postgraduate qualifications, which are revised annually, serve as a form of surveillance of competence. In order to be paid as a specialist, the practitioner must meet the standards set by the National Specialist Qualification Advisory Committee. These standards, it has been suggested, may well be the precursor of requirements that for reimbursement under the National Health Benefits Act specialist procedures must be performed only by properly qualified specialists. In that event, all surgery, for example, would have to be done only by qualified surgeons, not by general practitioners, who currently do about 20 percent of the surgery in the large cities and about 50 percent of the surgery in the rural areas.

The Pharmaceutical Benefits Scheme also regulates health personnel by specifying the drugs that can be prescribed for which reimbursement will be made. The formulary contains a wide range of medications, but not all are allowed. Thus, doctors and pharmacists are regulated in their functions by the Pharmaceutical Benefits Scheme.

Another mechanism regulating health manpower is Australia's system of financing hospitals. With reference to operating costs, each hospital is required to submit a budget which must be approved by the appropriate state agency. A recent report on Australian hospitals states:

> In most States the staff establishment of each hospital requires approval by the Statutory authority. Since wages and salaries make up approximately 70 percent of operating costs..., this approval implies a potentially important measure of detailed control by the State authority over the hospitals' expenditure. In practice, it appears that there are problems in trying to apply this control very rigorously.(31)

Regardless of the rigor of this control in practice, the system of public hospital deficit financing, through which state governments subsidize 55 percent of gross operating costs of hospitals, constitutes basic regulation of the numbers and levels of personnel employed by the public hospitals.

Moreover, the division of hospital room charges into three categories — private, intermediate, and public — affects the reimbursement of medical practitioners. The care of public patients who meet the means test (except in Queensland, where all beds are accessible as public beds) is fully reimbursed by the system of hospital financing, but private and intermediate patients are billed separately for doctor services on a fee-for-service basis.

The care provided under the Pensioner Medical Service and for "Special Account" cases in the voluntary insurance funds is monitored by the Australian government. The Pensioner Medical Service, which provides general practitioner care to pensioners, other handicapped persons, and their dependents (1,155,000 in June 1968)(32) conducts some review of services and numbers of patients treated by general practitioners registered with the Service. Data on payments made to doctors under the Pensioner Medical Service are published. The contribution of the Australian government to payments for "Special Account" cases by the voluntary funds, which involve medical and hospital care for pre-existent conditions or chronic cases, is associated with rigorous review. Every payment for these cases is audited by the national government in an efficient demonstration of accountability.

By contrast with this governmental surveillance, quality controls under the principal operations of the voluntary health insurance system are weak. By their own admission, the voluntary health insurance funds conduct no monitoring of medical care, except when there is a patent error. The funds simply reimburse doctors and hospitals (or indemnify patients) on a fee-for-service basis. Even when they note an unusually high number of single-day admissions (because outpatient care is not paid for under the health insurance system), they are unable to substitute ambulatory service for inpatient stays to provide diagnostic workups. As indemnity insurance mechnisms, in the main, the funds exercise very little influence on health personnel or the patterns of practice. One leading representative of a large fund expressed regret at the failure of voluntary insurance in the past to address the inequities and weaknesses in the system, so as to avert the enactment of universal national health insurance in Australia.

Other Governmental Mechanisms

In addition to the regulation of health manpower provided by the health service system, other governmental mechanisms influence the functioning and quality of health personnel. These include the operation of public service commissions, the system of industrial awards, and the effect of judicial actions.

State Public Service Commissions

Established at the beginning of the century to guard against ministerial patronage in public employment, state public service commissions provide over-all surveillance of job classifications and rates of pay within the public service. The commissions must approve individual appointments and promotions and handle disciplinary matters. They also approve establishment of new types of positions and determine appropriate salary levels for these. Since public hospitals are under the administrative direction of state health agencies, the staffs of hospitals are also subject to the jurisdiction of public service commissions.

In the past, public service commissions functioned as autonomous state agencies, with considerable power over personnel in the health services. Funding for health services came from the state treasury, and from the federal government in the form of equalization grants, so that the states were free to make expenditures as they saw fit. Today, with strong initiative for developing health services in the Australian federal government, grants are made for specific purposes, such as community health centers, and state public service commissions must adjust to the demands for new kinds of personnel to staff these new services. For example, the New South Wales Public Service Board was requested to approve two classifications of counselor – graduate and non-graduate – to work in community health services, and also the category of community health nurse, with appropriate rates of pay for each. New procedures for handling personnel matters have had to be developed, with interfaces between the state and regional health agencies and the public service commissions. The necessity to obtain concurrence of the public service commission serves as an additional regulatory mechanism – sometimes a delaying or even obstructive one – over appointment of new kinds of personnel.

Industrial Awards

In Australia, almost every kind of worker is represented by a union, and disputes concerning wages and working conditions are settled by "awards" of state labor or state wages boards for a particular industry.

Some health professional associations are registered as "trade unions" with the State Industrial Commission or the Federal Industrial Court. Thus, the Royal Australian Nursing Federation in some states and the Social Workers Association of New South Wales are both registered as unions and perform an industrial function. On the one hand, such registration enables a professional association to take action to improve salaries and working conditions. On the other hand, since many nurses and social workers are employed in public service, there have been conflicts with other unions representing public service employees.

In nursing, there are multiple professional and industrial organizations which hopefully will one day be rationalized through amalgamations of various groups.(33) The Royal Australian Nursing Federation (RANF) is the principal professional organization and is recognized by the International Council of Nurses. The RANF is also the industrial organization for nurses in South Australia and Queensland. In Victoria and New South Wales, however, the RANF serves only as the professional organization; in Victoria the industrial function is performed by the Royal Victorian College of Nursing and in New South Wales by the N.S.W. Nurses' Association. Additionally, there are the Matron's Institute of New South Wales and the Australian Capital Territory, as well as organizations for other special groups.

Division of nurses into numerous, disparate organizations was a factor in keeping nurses' salaries low for many years. In recent years, those professional associations that are registered as trade unions have become stronger, have won the right to bargain collectively for nurses, and are amalgamating. There is now a legal action pending in New South Wales to amalgamate the RANF and the Nurses' Association of that state. With increased activity and unity, steady progress has been made in raising the salaries of nurses. Industrial awards for higher wages have contributed to improved staffing of hospitals, although there is still a serious shortage of active nurses. The three principal hospitals in Brisbane (Queensland), for example, are 232 nurses short of their budgeted establishments. One interesting feature of the collective bargaining process is that in several states the industrial union of nurses has an official representative on the nursing registration board.

Judicial Actions

Suits for malpractice are infrequent in Australia, and premiums for malpractice insurance are very low by American standards. In New South Wales, malpractice insurance premiums are about Austr. $75 per year, in Queensland about Austr. $50 for full coverage of a surgeon, and in Tasmania about Austr. $40.

Numerous reasons are advanced for the low incidence of malpractice litigation, which constitutes, in a sense, a form of regulation of medical and sometimes other practitioners. One explanation given is that it is not part of the Australian culture to question what the doctor does, although this attitude may change with the growth of a consumer movement. Another is that until recently hospitals were protected by the rule of charitable immunity and, since medical staffs of hospitals were usually honorary, the doctors were regarded as providing charitable care. There have been very few law suits in Queensland, understandably, where hospital care has long been a free service. But even where it is not free, there have been few suits.

The most cogent explanation of this difference between Australia and the United States, however, was provided by a distinguished educator and member of the legal profession, who suggested that there are fewer malpractice actions in Australia than in the United States probably because "contingency fees" are illegal in Australia and are, in fact, a ground for disbarment. Thus, there is not the same incentive for a lawyer to take a malpractice case as in the United States, where contingency fees are customary. In Australia, if a malpractice action is won, the lawyer receives a fee and his costs, but not a percentage of the damages awarded.

Voluntary Controls

Voluntary organizations participate in the regulation of manpower in Australia, as in the United States. Professional associations credential personnel, set standards for specialty training, and approve training posts. Hospitals and other employers impose internal controls that affect the quality of personnel and performance. These voluntary controls are, however, less structured and formalized than are analogous mechanisms in the United States. Perhaps the smaller population of Australia, with people in health circles in the large cities knowing each other, permits more informality in application of professional standards. Perhaps the great strength of the government in the educational system permits looser controls in other sectors.

Credentialing by Professional Associations

Membership in professional associations is a form of credentialing personnel, similar to certification by a professional group in the United States, because the criteria for membership include completion of certain educational pre-requisites. Membership in a professional association may be recognized in three ways. First, it may be required or sufficient for registration. For example, the Victorian registration board for psychologists accepts the standards set for membership in the Australian Psychological Society as sufficient for registration. In effect, membership in the Society is a condition of practice. Another example is the registration of radiographers in Tasmania, which endorses the certificate of competence issued by the Conjoint Board of the Royal Australasian College of Radiologists and the Australasian Institute of Radiography. Thus, the Tasmanian registration is, in effect, governmental approval of a voluntary certification. It may be noted here that voluntary or permissive registration is in effect the equivalent of certification because registration is not required for practice but only for use of the title.

Second, membership in a professional association may be required or recognized for employment. For example, speech therapists are not registered in any state, but employers often regard eligibility for membership in the Australian Association of Occupational Therapy as desirable.

Third, membership may be recognized industrially. For example, an industrial award may require that a radiographer hold the certificate of the Conjoint Board, mentioned above, or that a social worker be eligible for membership in the Australian Association of Social Workers in order to receive the salary level approved by the award.

Approval of Specialist Training Posts

The role of the professional Colleges in setting standards for postgraduate medical training and in giving examinations for specialty qualifications was discussed in the previous chapter. Such participation in the education of specialists constitutes an important form of regulation of personnel by voluntary professional associations.

The professional Colleges also accredit posts for postgraduate medical training, with admittedly great variation in the requirements for different specialties. In Victoria, as discussed earlier, approval of internship posts is a governmental function of the medical registration board, but representatives of the professional Colleges serve on the accreditation committee of the board. In all six states, however, the professional Colleges accredit the post-internship residency or registrar positions.

As yet, there has been no attempt in Australia to regulate the numbers of doctors entering the various medical specialties. But in New South Wales some regulation of the number of residency training posts available for each specialty is envisaged. A joint committee, composed of representatives of the New South Wales Health Commission, the teaching hospitals, the professional Colleges, and the Australian Medical Association, has been established to consider the number of training posts that should be available for each specialty. Since the Health Commission controls the funding of hospitals, it is in a strong position to influence the training of the types of specialists needed.

Continuing Competence

Much of the continuing education for doctors and allied health personnel is conducted by professional associations, as discussed earlier. In addition, some professional Colleges are encouraging or requiring updated qualifications. The Royal College of General Practitioners, as mentioned, is promoting use of a self-examination. The Royal College of Obstetricians and Gynecologists now requires re-certification every ten years for all holders of new diplomas. The Royal College of Physicians is considering instituting a similar requirement.

Internal Controls in Hospitals

Hospitals, as the largest employers of health personnel, have an enormous impact on the education, functions, and performance of their employees. For most allied health workers, the crucial relationships are between the training schools and the employing agencies, rather than the registration bodies. The period of practical training in a hospital required for many categories of health worker reinforces this influence. The scope of functions of allied health workers, once they are employed in the hospital, is governed largely by the institution itself, because it is assumed that if the worker is properly trained and credentialed then his duties may be determined by the institution within appropriate limits.

For doctors, the hospital determines its medical staff organization, which may vary from a loosely structured pattern to a highly structured medical staff system. Public hospitals, as noted earlier, tend to be far more disciplined than private. The number of full-time, salaried staff is increasing. In 1972, a total of 4,800 doctors were employed by hospitals full-time, of whom 19 percent were interns, 49 percent were residents or registrars, 7 percent were administrators, and 10 percent were full-time specialists.(34) The termination of the honorary system and the payment of visiting medical staff members on a sessional basis represent another change in the status of the doctor in the hospital. As more kinds and numbers of allied health personnel are trained, hospitals are also experiencing a growth in the overall team provision of care. In all these facets of staffing, the hospital governance is dominant.

The hospital also may exercise regulation of its medical staff through tissue committees, medical audits, and other forms of peer review. These mechanisms exist in Australian public hospitals (rarely in private ones), but they are much less common than in American hospitals. One medical administrator of a hospital stated that peer review has not developed because the doctor has virtually unbridled control of the doctor-patient relationship. It is possible that peer review in hospitals is less well developed than in the United States because general practitioners have been largely excluded from Australian hospitals. The medical staff is made up almost entirely of qualified specialists, and there are two fundamental mechanisms for controlling the quality of specialists. One is the national specialist register for reimbursement under the health insurance program, discussed earlier. The other is the power of the hospital to make the initial appointment to the medical staff and then its power to re-appoint every three years. This system of periodic re-appointment is a safeguard of quality because, if a doctor is not measuring up, he is not re-appointed. The problem is that no standard has been developed for determining the quality of medical care.

Another mechanism by which hospitals may regulate personnel is through graded privileges. In Australia, the delineation of clinical privileges in hospitals is prompted by the need to determine what general practitioners may do in hospitals, especially in rural areas, where specialists are lacking. In New South Wales, graded privileges exist in only two hospitals. The Health Commission is currently framing regulations to introduce graded privileges in all hospitals.

Accreditation of Hospitals

At present, Australia has no system of voluntary accreditation of institutions analogous to that performed by the Joint Commission on Accreditation of Hospitals in the United States. In fact, the word, "accreditation," is used in Australia only to signify approval of internship or other training posts.

A program of hospital accreditation is, however, in the planning stage. A joint Australian Medical Association – Australian Hospital Association Committee on Hospital Accreditation changed its name in 1972 to "Australian Hospital Standards Committee." The new name is designed to reflect an even broader role than accreditation of hospitals in the American or Canadian sense. The intention is to develop a set of principles governing the quality of patient care. In March 1974, the Committee endorsed a plan for expanding its role and set forth four objectives: (1) to develop and publish standards for Australian hospitals; (2) to introduce and maintain a program of hospital accreditation; (3) to liaise with government in regard to the needs of the hospital system, and (4) to investigate new ways of assessing patient care.(35)

Consumerism

Still another voluntary mechanism regulating health personnel, in a sense, is the voice of the consumer. This voice has become increasingly audible in Australia recently as debate on the issue of universal health insurance has occurred throughout the country. In May 1973, a new organization, the Medical Consumers Association of Australia, was founded to enable the consumer to intervene in the debate on national health insurance, which had become a dialogue mainly between the government and the doctors. Undertaking an informational and educational role, this new organization, while still small, found ready interest and response among individual consumers and among unions. The organization is currently turning to wider issues – to such questions as the quality of care provided in hospital outpatient departments; the contribution of employers to health insurance premiums, not heretofore customary in Australia for fear of jeopardizing the minimum wage; and to meaningful participation of consumers in the management of any national health insurance system.

....

The Australian pattern for regulating health personnel, like the American, consists of many parts. One can learn from what the system does and what it does not do. A salient feature is the power of the states and the diverse requirements of their registration laws. In response to this feature is the current drive for national standards for personnel, particularly for overseas graduates. Also very prominent in Australia, as in the United States, is the strong role of the professional Colleges in regulating specialist qualifications. The voluntary health insurance system, however, has had only limited influence. It has not been used significantly to achieve more efficient and effective use of health manpower for improved health services. The major initiative in this direction has been exercised by the Australian federal government in its policies and programs and by state agencies in their governance of hospitals, but the capacity of the insurance mechanism to improve the health service system has not yet been tested in Australia. Finally, a basic safeguard of the quality of personnel is the federally funded and governmentally accredited system of education for health manpower. The public accountability of the educational system, which is particularly high in Australia, constitutes a fundamental protection of the quality of health personnel and therefore ultimately of the quality of health services they provide.

References

(1) Most of the material in this chapter was drawn from interviews and from analysis of Australian registration statutes and regulations, many of which are not cited because they are not readily available in general libraries in the United States.

(2) Australian Universities Commission, *Fifth Report*, May 1972, p. 2.

(3) Australian Council on Awards in Advanced Education, *Statement No. 1, Nomenclature and Guidelines for Awards in Advanced Education*, Canberra, August 1972, p. 3.

(4) Committee on Overseas Professional Qualifications, *First Report*, Canberra, December 1969, p. 1.

(5) See Committee on Overseas Professional Qualifications, *Fourth Report*, Canberra, December 1972.

(6) See Victoria Institute of Colleges, *Sixth Annual Report of the Council*, Melbourne, 1972.

(7) Some registration statutes governing chiropodists are deemed permissive and allow persons to provide foot care as long as they do not use the title, "chiropodist." But see Victoria Chiropodists Act 1968, as amended by Act. No. 8218, 14 December 1971. Section 14 of that Act bars use of the title, "chiropodist," by a person not registered and makes it a criminal offense for a person who is not registered or who is not a medical practitioner to be engaged in the practice of chiropody for fee or reward.

(8) Western Australia Dentists Act, 1939-1972, sec. 5(2)(a); Victoria Dentists Act 1972, sec. 4(4).

(9) See, for example, New South Wales Pharmacy Act, 1964, sec. (4)(2)(a) providing for the election of the four pharmacists of the eight-member board. The other four members are an official of the state health agency, a nominee of the University of Sydney, a nominee of the Friendly Societies' Association of New South Wales, and a barrister or solicitor nominated by the Minister of Health.

(10) See, for example, South Australia Medical Practitioners Act, 1919-1971 and Regulations and also Queensland Medical Acts 1939 to 1969 and Orders in Council, Regulations, Rules, and By-Laws.

(11) Committee on Overseas Professional Qualifications, *Medicine in Australia*, June 1972.

(12) Western Australia Medical Act, 1894-1968, sec. 12(2)(a)-(c).

(13) The Register of Specialists published by the Medical Board of South Australia contains a schedule of specialists proclaimed in South Australia and the names, professional addresses, registration numbers, and dates of registration of the registered specialists, by specialty.

(14) E.g., South Australia Medical Practitioners Act, 1919-1971, sec. 29c.

(15) Victoria Medical Practitioners (Amendment) Act 1973, Act. No. 8424, amending the Medical Practitioners Act 1970.

(16) Western Australia Medical Act, 1894-1968, sec. 13(h).

(17) J.C.H. Dewdney, *Australian Health Services*, Sydney: John Wiley, 1972, p. 276.

(18) See New South Wales Nurses Registration Act, 1953, sec. 15(1).

(19) See, for example, the detailed courses of training prescribed by Statutory Rules, 1974, No. 74, Nurses' Registration Regulations 1951, as amended, under the Tasmania Nurses' Registration Act.

(20) See, for example, Queensland Nurses Regulations of 1965-1972, "State Examinations."

(21) E.g., Victoria Nurses Act 1958, as amended, sec. 28(3).

(22) See, for instance, Queensland Medical Acts, 1939 to 1969, sec. 47(4c).

(23) Tasmania Dentists Act 1919 (as amended by Act. No. 73, 1957), sec. 38.

(24) New South Wales Dentists Act 1934 (as amended by Act No. 21, 1964), sec. 12(3)(b1).

(25) Committee on Overseas Professional Qualifications, *Pharmacy in Australia*, May 1973, p. 5.

(26) Hospitals and Health Services Commission (Sidney Sax, Chairman), *A Report on Hospitals in Australia*, Canberra: Australian Government Publishing Service, 1974, p. 92 and Appendix D.

(27) See "Hospital Systems in Individual States," in *A Report on Hospitals in Australia, op. cit.*, Appendix D.

(28) *Id.* at p. 151.

(29) *Id.* at p. 156.

(30) National Specialist Qualification Advisory Committee, *Lists of Recommended Medical Specialties and Postgraduate Qualifications* No. 1, October 1973.

(31) *A Report on Hospitals in Australia, op. cit.*, p. 24.

(32) Richard Bailey Scotton, *Medical Care in Australia: An Economic Diagnosis*, Melbourne: Sun Books, 1974, p. 70.

(33) Dewdney, *op. cit.*, pp. 260-265.

(34) *A Report on Hospitals in Australia, op. cit.*, p. 168.

(35) The Australian Hospital Standards Committee, *Newsletter*, May 1974.

Chapter Six

SALIENT HIGHLIGHTS AND TRENDS

In this final chapter we shall try to distill out from the Australian experience the main lessons of value for the United States regarding health manpower policies and practices. In so doing, of course, the emphasis will inevitably reflect our own judgments, as formulated from observations in 1973-1974 and information gathered from literature on earlier periods. We make no attempt to criticize Australian policies nor to draw attention to health manpower features which may appear to us as weaknesses, relative to American realities. Our posture is deliberately to emphasize those aspects of the Australian health scene which seem to us valuable for study by the United States, in the effort to solve its own health manpower problems.

With this viewpoint, we shall summarize first the new universal health insurance law enacted in 1974 in response to problems of Australia's past. Secondly, we shall attempt to review the efforts, in tandem with health care financing, to change and improve the health care delivery system. Thirdly will come review of policies and actions in the output and education of all types of health manpower. Fourthly, we shall attempt to identify the principal changes being promoted in the definitions and functions of various kinds of health manpower. Finally, we will examine the main policies of regulation, not solely in a legalistic sense, but as methods to promote the quality of health services and equity in their distribution to the population.

The New Universal Health Insurance Law

Patterns of financing and organization of health services are inevitably influenced by the character of political power. After 22 years of national control by the Liberal Party (1950-72), the main features of the Australian health service system seen today naturally reflect strongly those two decades of influence. By the same token, the election of a Labor Government in December 1972 is largely responsible for the great ferment currently observable and for the changes in direction of the health care system generally, and manpower specifically, that mark the contemporary scene.

As discussed in Chapter One, the escalating problems of the Subsidized Health Benefits Scheme, started in the 1950's and built upon some 90 voluntary insurance organizations, heavily subsidized by both state and federal governments, led in August 1974 to enactment of a new Health Insurance Act of 1973 (while finally legislated in 1974, the Act had been introduced in 1973, which accounts for its title). In November 1973, the federal government had issued a "white paper" outlining the main provisions of the new bill it intended to present to the Parliament.(1) In the British tradition, this document allowed for wide public discussion by all groups affected for several months before the final vote. Despite the vituperative attacks on the proposed new law by the Australian Medical Association and the voluntary insurance funds, an objective review of its provisions shows it to be essentially an extension, relatively modest, of the previous law, correction of its more obvious deficiencies, and a law which, in itself, does little to change the fundamentally private open-market character of the Australian health care delivery system.

Main Features of the New Law

The principal change from the past is that the new Health Insurance Act will cover *all* Australians, with equal benefits, rather than just those who enroll in a voluntary insurance fund.(2) Benefits for pensioners and their dependents, unlike the past, will be the same as for everyone else (although they will not have to pay for them). The same equality of coverage and benefits extends to workers' compensation (industrial injury) cases and to persons injured in road accidents.

The benefits, however, do not constitute 100 percent assumption of all medical and hospital bills. Like the previous program, the new one still requires cost-sharing by the patient, although with greater constraints. For doctor's care, the patient is reimbursed (or the doctor is paid directly, if he wishes to submit his bill to the government) 85 percent of a scheduled fee; the patient pays the remaining 15 percent up to a maximum of $5, so long as the doctor observes the schedule of fees which is written into the law. (The law seems not to be clear on the freedom of the doctor to exceed the scheduled fees, which could then mean an obligation of more than $5 to the patient.) While not in the law itself, the government's white paper speaks of publicizing the names of doctors who "regularly charge more than scheduled fees."

Hospital benefits involve a greater move toward equity than medical benefits. The new law makes all persons (regardless of income) eligible for "standard ward" care without a means test and without any cost-sharing. In-patient and doctor's services are similarly available to all persons without charge, if they use the public or standard wards, as are hospital out-patient department services. If the patient chooses a private bed in a public hospital, he will be charged a supplemental personal fee, which is, however, fixed by law. If he chooses to use a private hospital, the federal program will pay a benefit of $16 per day (in contrast to $2 in the past), with the patient paying the balance. For certain charitable private hospitals, however, the government may contract to pay the full charges for "eligible persons" (presumably of low income) occupying a certain number of beds. The implementation of these hospital benefits will undoubtedly require public hospitals to engage more doctors on a salary basis, either full-time or through part-time "sessional" fees.

Another major change of the new insurance law is its method of financing, designed to achieve greater equity among different income groups. Instead of the flat insurance premiums of the voluntary funds, the monies are to be raised from general ("consolidated") revenues. A proposed 1.35 percent levy on all individual taxpayers' incomes, subject to a $150 ceiling, and with exemptions for low-income taxpayers (including pensioners and others) was defeated in the national Senate. It is perhaps ironic that this defeat of a traditional social insurance tax by conservative forces results in a more "radical" policy of support of the health services from consolidated revenues (derived from more progressive taxation). In addition, the major state government subsidies of the operating costs of public general hospitals (about 50 percent) will be matched by equivalent federal subsidies, drawn from consolidated revenues.

Thirdly, it is expected that the administration of the new law will be done with greater efficiency and economy, because of the very much simplified money-collection process and the basic economies of a larger scale operation. At the same time, the government intends to invite the existing voluntary insurance funds to contract with it to act as agents for the payment of doctor bills (not hospital charges) during the first three years of the program. (One might speculate that this arrangement would be extended, if it works out well.) In addition, the voluntary funds would continue to have a role to play, in selling supplemental private insurance to cover the costs of extra charges for private hospital rooms and even for the cost-sharing co-payments required for doctor's services.

Fourthly, the new law, through its centralized pooling of monies, will provide the government with greater leverage to influence the rational and more equitable development of the whole health care system. The probable engagement of more salaried doctors, to provide in-hospital benefits, has been mentioned. One must be cautious about predictions in this sphere, but it would seem likely that a central government aiming to correct maldistribution of health resources, such as manpower, for example, could allocate monies in a way to encourage their redistribution. Channelizing relatively more funds to rural regions could make them more attractive to doctors, or alterations of fee schedules could modify the economic attractions of family medicine in relation to various specialties. Similar allocation strategies could affect the distribution of hospital beds and equipment to render them in closer proportions to population needs.

Effects of Health Insurance Legislation

There can be little doubt that the earlier National Health Act of 1953 had substantial effects on Australia's health care system. The relatively abundant supply of hospital beds in the nation as a whole was surely made possible by the combination of governmental (state and federal) and insurance funding to support their operation. Many Australian observers believe that the higher insured fees paid to specialists accelerated the growth of medical and surgical specialization, vis à vis general practice, in the past 20 years. The over-all utilization of medical care by the population was undoubtedly enhanced by the insurance legislation in Australia, as in all other countries with such programs.

On the negative side, the weak development of the allied health professions, particularly optometry and podiatry, can surely be attributed in part to the non-coverage of these services by the old law, a feature to be changed in the new law. Also, it may not be amiss to speculate that the fee-for-service pattern of medical remuneration has been kept virile in Australia by the patterns of operation of the voluntary funds. The new law, as noted earlier, by its guarantee to all persons of hospital standard ward care, without a means test, will probably induce hospitals to pay doctors for in-patient care more frequently by salary.

Finally, it should be noted that the new health insurance law is to be administered by a new Ministry of Social Security, rather than by the Ministry of Health as in the past. Direct management of the scheme will come under a Health Insurance Commission of seven members, appointed by the Governor-General (essentially the cabinet of the ruling party). One may wonder why this authority should have been taken from the Ministry of Health, where it was previously lodged and where it remains, for example, in Australia's British Commonwealth neighbor, New Zealand. Varying opinions are offered to explain this – for example, that a new Ministry had to be created to satisfy certain political needs, that a stronger hand was needed to guide this controversial new program than could be expected from the Ministry of Health, and so on. Nevertheless, coordination between a national health insurance system covering everyone and the responsibilities of the Ministry of Health must obviously be great, and one may expect that the two entities will work closely together, if not becoming united at some future time.

Changing the Health Care Delivery System

Whatever leverage the new 1973 Health Insurance Act may exert in the future, there are several other strategies being undertaken in Australia today to modify the health care delivery system. Even before the new insurance law was passed, there was established within the Ministry of Health a semi-autonomous Hospitals and Health Services Commission, with broad authority to grant monies to state governments and local entities for establishing a wide variety of innovative health programs.(3) The mechanism of independent commissions is a well-recognized method to permit a governmental initiative unshackled by ingrained, bureaucratic lines. At the same time, through the indirect influence of the federal Ministry of Health, and the promotion by the Labor Party of general discussion of the needs for improved health service organization, other changes have been taking place at the state and local levels.

Regionalization of Health Services

For several years, perhaps as part of world-wide trends (apparent in the United States also), coordination of separate governmental health authorities had been growing in Australia. In Chapter One, the configurations of agencies for public health, hospitals, and mental health in the six Australian states were reviewed, and the movement toward unification was evident. The completely integrated Health Commission of New South Wales is, at this point, the fullest expression of this concept, and as the largest state New South Wales tends to be a pace-setter for the other five.

The other side of the unification coin is decentralization of the integrated responsibilities to health regions of manageable populations, ranging from 200,000 to 1,000,000 people and averaging about 500,000. A substantial boost to this movement, which had already been started by the states, has been given by grants of the federal Hospitals and Health Services Commission (HHSC) to "regional health services planning teams," when such grants are matched by the state governments. The largest of such grants have gone to health regions in New South Wales, but grants with similar objectives have gone to "health services planning and development units" at the state level in Queensland, South Australia, and Tasmania (though requests have not yet come from Victoria or Western Australia).

The regionalization movement is perceived as a step toward establishing viable local health authorities which, unlike the customary units of local government in the United States or the United Kingdom, have not previously taken shape in Australia. As they become crystallized, it is hoped and expected that each such regional authority will be able to take a comprehensive view of the total needs for health resources and programs within its borders. Ultimately, it is anticipated that 50 to 60 health regions would cover the country, and each would be in a position to organize its own health services, identify its deficiencies, and notify the state and national governments of assistance needed. Such information would guide the central authorities, both Ministries of Health and of Social Security, in the allocation of funds which could help to meet the needs and achieve equity.

Community Health Programs

The mechanisms for promoting community health centers, and thereby strengthen and alter the patterns of delivering primary care, have also been reviewed in previous chapters. Part of this movement is the integration of preventive and curative service. We have noted how, in Australia, the child health stations, usually under Health Departments, have continued to operate extensively for preventive services, while the general practitioner, or occasionally the pediatrician, takes care of the sick child. In a community health center, both types of service would be rendered, with the child health nurse being in closer regular contact with the primary doctor, who takes overall responsibility for the child's health.

While the theme of the robust grant program for community health centers today is the strengthening of primary care, one may expect that eventually the objective will broaden to include other types of ambulatory service. Already one sees geriatric centers designed to provide medical and social rehabilitation services for the aged, the chronically ill, and persons with mental and emotional problems. Other countries have developed "polyclinics" as places for delivery of specialty care as well to the ambulatory patient. The multi-specialty private group practice, common in the United States, is rarely seen in Australia, but it may well evolve as the idea of health center teams becomes more widespread. Australian interest in the "health maintenance organization" concept, diffused from America, is a straw in the wind along these lines.(4)

The gradually broadening scope of the general community health centers and also the mental health centers will obviously promote increasing teamwork among health personnel. The implications for more rationalized use of health manpower are obvious. It is interesting to observe the parallel movement in the United States, but only for the poor, under the label of "neighborhood health centers," as well as the "comprehensive health centers," derived by a broadening of the scope of traditional public health categorical clinics. With the expansion of this movement, we may expect to see a gradual modification of the fee-for-service system of medical remuneration toward salaried patterns, and the modified incentives for preventive service and prudent use of hospitals associated with them.

Hospital Organization

Government-sponsored general hospitals are much more common in Australia than in the United States. If a parallel may be drawn to Europe, this basic fact may account for the less rigorous medical control systems, in the sense that the very problems of America's free-wheeling, open-staff hospitals were the stimuli of our whole "standardization" and later "accreditation" movements.(5)

Yet, the very financial dependence of Australia's "public hospitals" (both governmental and voluntary) on state and federal governments gives these authorities power over hospital operations which, in the long run, is probably greater than the influence of hospital licensure laws. Indeed, the effects of Australia's hospital licensure laws on private institutions have yielded much looser patterns of medical staff organization and overall hospital administration than one sees in public hospitals, where the power of the purse is operative. As the new universal health insurance law channelizes still higher proportions of hospital income through governmental bodies (in replacement of voluntary health insurance funds), one may expect that this power will be used to achieve further rationalization of the health care system. Planned proportions of residency training programs in the different medical specialties, for example, should be easier to achieve with such public financing. Likewise for other aspects of hospital staffing and administration.

The newly developing movement for voluntary hospital accreditation in Australia is perhaps interpretable as a strategy to head off increased governmental controls. It need not matter, so long as the same goals of upgrading quality can be achieved, but it is doubtful if accreditation, by itself, would promote an increased proportion of salaried full-time specialists in hospitals. Yet this is admittedly one objective of the new health insurance legislation, in the interests of both quality and economy.

Health Manpower Output and Education

Lessons to be learned from Australia in the sphere of health manpower output and education are perhaps more visible than in other spheres. In virtually all health disciplines, with the exception perhaps of pharmacy, there have been deliberate expansions of output, to cope with the rising demands for health service associated with widened insurance coverage, greater sophistication of people, better transportation, aging of the population, advances in the capabilities of medical science, and so on. The expansion has occurred both by establishment of new schools at the tertiary level of education and increases in the enrollments of existing schools.

Governmental Support and Expansion of Tertiary Education

While for many years nearly all education of health personnel in Australia has been governmental, shared between state and federal levels, since 1973 it has been almost entirely federal, where revenue resources are greater. The share of the national government budget allotted to education has increased, while that allotted to military purposes and certain other sectors has declined. Manpower is regarded as a national resource, and training is therefore seen as a proper federal responsibility.

Australian medical school expansion illustrates the general course of events very well; until 1935, the whole nation was served by three medical schools, all started in the late 19th century. In 1936 a fourth school was founded, and between 1957 and 1965 four more schools were established. A ninth medical school opened in 1974, and two more are currently on the way. All are governmental schools, where the student now pays no tuition; scholarships for living expenses, moreover, are available from the federal Department of Education for students in need.

The generous governmental investment in health manpower education has meant not only a rapid increase in the numbers produced but also a substantial influence on the content of educational programs. While some might regard this as a dangerous dictatorial policy, the decision-making is delegated to semi-independent national commissions composed of leading scholars, and has evidently yielded a system which is generally satisfactory to all interest groups. One hears no criticisms by any political party, nor from academic circles, students, or professional bodies. The Australian Universities Commission, modelled after the British pattern, is universally respected, and its reports — like the one on *Expansion of Medical Education* — set policies on which there seems to be wide consensus.(6) Of course, before issuance of such a report, the Commission solicited the views of individuals and committees from no less than 42 universities, professional associations, and other bodies.

Education of Nurses and Allied Personnel

Comparable control bodies for vocational or technical education below the university level have had similar governmental support and vitality. The Australian Commission on Advanced Education and the new Australian Commission on Technical and Further Education do both the financing and surveillance of schools at these two levels. They encourage the states to develop new schools and courses of study, as judged to be needed. Unlike the A.U.C. (which has a parallel state agency only in New South Wales), these two commissions have counterparts in all the states which supervise more closely the relatively larger number of colleges and technical schools, with their expanding range of courses.

The movement to shift the education of professional nurses gradually from the hospitals to the colleges of advanced education is a striking example of the potentialities of these central bodies. For post-basic nursing education much of this has already been done, and the transfer is now starting for basic R.N. training. Hospitals will, of course, continue as places for clinical training of nurses and various other allied health personnel (rehabilitation therapists, pharmacists, technicians, etc.). In so doing, hospitals will enjoy the benefits of "service" from the nursing and other students, without the costs of their education which, in the CAEs, will be borne entirely by the federal government. And nursing leaders are confident that the changed scheme will result not only in better quality education but in longer periods of tenure of young women in professional work.

The federal Commission for Advanced Education is also in a position, through its state counterparts, to promote "core curricula" in several fields. This has been achieved already in certain subjects, like anatomy and physiology, taught jointly to students in physiotherapy and laboratory technology in some places, for example — or psychiatry taught to students in social work and occupational therapy — and more is expected. Also, a national agency responsibile for this level of education has the capability of resolving impediments to career mobility. In Australia, the two levels of secondary education are a factor to be considered in connection with promotion of upward mobility. A student who has only an intermediate or junior certificate (10th grade) rather than the full 12th grade matriculation currently may be blocked from further training for lack of the necessary pre-requisites. For this reason, "bridging" courses are offered to allow students to make up pre-requisites which they lack. Parochial educational barriers must be broken down, but the fiscal powers of national commissions can hasten the process.

The Role of Health Service Agencies

All three of these central commissions of tertiary education depend for their ultimate authority and funding on the Ministry of Education. The Ministry of Health, however, also plays its part. Until now, with its indirect responsibility for public hospitals, through the state governments, it has covered the costs of nursing schools and the practical aspects of training of many other allied health fields. Most recently, the Health Ministry has provided almost all the funds, leadership, and guidelines for the totally innovative school dental therapist training programs.(7) The speed with which schools for training these auxiliary dental workers have been developed is evidence of the benefits of centralized leadership and planning.

Another responsibility of the Ministry of Health has been the School of Public Health and Tropical Medicine. While located on the campus and partially within the administrative structure of the University of Sydney, it is financed wholly by the federal Ministry. Its teaching and research program, in this way, can respond promptly to the health needs of the nation as perceived by the federal leadership. In the last year, for example, with Australia on the eve of major changes in its health insurance and health care delivery systems, sweeping new plans were drafted to modify the school toward turning out the types of health service administrators to be required by the new health scene.

Growing recognition of the need for continuing education of doctors, to upgrade and maintain the quality of medical care, has presented another challenge to which the Ministry of Health could respond. Through its Hospitals and Health Services Commission, plans were formulated for an organized and well-financed system of continuing medical education, which would be available to all practitioners.(8) University medical schools, professional associations, specialty colleges, and state health authorities would all participate in designing programs and offering instruction, but the necessary funding would come from the federal government as part of the costs of maintaining high-quality service in a national health program. Area Committees of medical practitioners, congruent with the previously discussed health regions, would be appointed to identify specific continuing education needs and to encourage participation of all doctors.

In the continuing education field, the Family Medicine Training Program has been a trail-blazer already. With its combined influence on undergraduate medical schools, postgraduate training, and continuing education, this program has begun to demonstrate the capacity of educational efforts to influence the planned distribution of primary doctors among the specialties of medical practice; in part, this process is occurring through changes in professional attitudes.

Changing Health Manpower Functions

Obviously related to educational programs and, indeed, stimulating the very formulation of those programs, is the recognition of needs to train new forms of health manpower or to modify the functions of existing personnel. In Australia, the most significant trends have occurred with respect to general medical practice, specialty distribution, community health nurses, and dental therapists. A few words may be said about each of these.

General Medical Practice and its Strengthening

Throughout all previous chapters, the concern in Australia for strengthening general medical practice, for slowing down the trend to specialization, for improving the quality of primary health care, has been evident. Two main governmental strategies have been used and a third has developed spontaneously.

The spontaneous response to the problem of strengthening general practice has been the steady growth of medical partnerships and groups. As noted in Chapter One, about 35 per cent of general practitioners practice in teams of three or more – to use the customary American definition of "group practice." This proportion has been gradually expanding, and it doubtless serves to enhance the quality of work of each of the doctors, not only by the stimulation of colleagues and opportunities for frequent consultation, but also by the greater feasibility of having office nurses and aides.

The governmental strategies have included, first of all, the whole Family Medicine Program mentioned above and discussed in Chapter Four. One may see analogies in the efforts of the American Academy of General Practice and the final achievement in 1969 of an American specialty Board of Family Practice. But the Australian program has the advantages of vigorous political support from the Australian Medical Association as a whole and the substantial financial subsidies from the federal government.

Probably most important in the long run have been the many-faceted "community health programs" promoted by federal and state governments with expanding fiscal support from the federal level.(9) It need hardly be repeated again that this strategy is designed not only to strengthen general practice by giving the general practitioner adequate staff support, but also to make more accessible to people an integrated pattern of preventive and therapeutic primary care and to increase over-all productivity and efficiency by maximizing teamwork among several types of health personnel.

Rationalizing the Proportions of Specialists

Less accomplishment can be reported toward the goal of rationalizing the proportions of medical and surgical specialists, except to point out that the problem is keenly recognized by national health leaders. The Hospitals and Health Services Commission has a Task Force on Health Manpower, which is studying this problem, as are several of the specialty Colleges.

It seems likely that the control of public hospitals by the state governments, and the eventual influence on their operating costs by the federal government under the new national health insurance legislation, will furnish some instrumentalities for controlling the number of specialists in each field, through approval of residencies and registrarships. More study of population needs is admittedly required before reasonable standards for relative numbers in the several specialties can be arrived at. Australians are studying the experience of large "health maintenance organizations," like the Kaiser-Permanente Health Plan, in approaching this problem, and perhaps HMOs will have to be set up and analyzed in the Australian environment to reach satisfactory answers. The problem is to estimate objective needs for each of the specialties, without the distorting effects produced by the incentives of differential fee schedules evolved from the past.

Community Health Nurses

As part of the community health center movement, the usual Australian definition of a community health nurse — essentially as a generalized outreach worker — is certainly worthy of study and comparison with American approaches. In the United States medical world of grossly inadequate numbers of primary doctors, however, a more clinically independent nurse-practitioner seems to be the major need.

Perhaps it is wisest to conceive of two types of extended-role nurse: the broadly generalized public health or community type and the clinically trained screening type. The latter would diagnose and treat those commonplace ailments she can confidently handle, and would refer to the doctor the more perplexing cases. She would also carry out certain procedures done in the past only by doctors (blood pressure readings, detailed histories, venapunctures, etc.) and would handle follow-up visits of chronic patients whose conditions simply required monitoring.

Related to nursing of all types, one should take note of the general problem of "wastage" and actions to combat loss of highly trained professionals — instituting refresher courses for married nurses whose children have grown up, structuring hospitals and other agencies to use nurses on part-time schedules, offering day-care centers for pre-school children, and adjusting salaries to make the continuation of or return to nursing worth the extra burden that would thereby be imposed on family life. At the same time, an increased program of training "vocational" or, as the Australians say, "enrolled" nurses obviously helps to adjust to the shortage of R.N.s. In Australia, plans are also under way to enrich the training of enrolled nurses, in order to replace nursing students who will no longer be available as a work force in hospital-based training programs. Whether the higher Australian ratio of professional to enrolled nurses, compared with the American, results in better patient care or not, is a question we can only raise and hope that research will be done to provide helpful answers.

Auxiliary Dental Personnel

While New Zealand was the pioneer, there can be no doubt that the Australian demonstration of concerted and rapid development of a corps of school dental therapists has crucial lessons to teach the United States. It is worth noting how readily schools for training these young women health workers can be launched, without the complexities that would be entailed in having them attached to university-based schools of dentistry.

It is also worth observing that effective work by these specialized allied personnel does not depend on constant supervision, but only on the availability of consultation from a professional dentist for selected problems. Australia has benefited from some of the weaknesses identifiable in the long-established New Zealand program (such as antiquated equipment) and would seem to be especially worthy of study by American health leaders. Even with our much better supply of dentists, the deficiencies in dental care among American children, especially from low-income families, have been demonstrated to the satisfaction of the most hard-core defenders of the status quo.

Quite aside from the proven economies and the good quality of their work, the dental therapist or dental nurse strategy would seem to be justified from the simple unwillingness of dentists to do this relatively tedious work on children, in the face of opportunities for other work that is both more interesting and more lucrative. Even if a meticulous comparison of treated cases should demonstrate technical superiority in restorative dental care given by a fully qualified dentist, the criterion of judgment must ultimately be based on the question of accessibility of dental service to the whole population of children. On this basis, the cost-benefit ratio of a massive program of training school dental therapists clearly comes out ahead.

Regulation: Quality and Equity

In Chapter Five the several facets of health manpower regulation in Australia were reviewed from the viewpoint of law and other non-official forms of social control. Here we shall examine the subject of regulation not only in terms of Australian lessons for America but also from the perspective of its ultimate purpose of achieving assurance of quality and equity in the provision of health services.

Federal-State Relations

Regulation of health manpower in Australia, as in the United States, is basically a responsibility of the states, as discussed in Chapter Five. Yet, through the vehicle of funding, it is quite apparent that the federal government has been acquiring increasing influence and correcting some of the inequities and variations among the states.

This trend was evident long before the current Labor Government, which has indeed accelerated the process. The administration of the Pharmaceutical Benefits Act for more than 20 years, for example, was always federal and certainly influenced the prescribing practices of doctors. Likewise, the Pensioner Medical Service has always been federal, and it may be noted is the only governmental program with a regular system of surveillance over the performance of general practitioners—through federal medical consultants stationed in each state, who make periodic visits to participating doctors.

In the administration of its several change-promoting programs, the national Hospitals and Health Services Commission takes pains to work through the state authorities. All local bodies applying for grants are advised to do so through the appropriate state health agency, and the latter is notified of all awards and kept informed of all developments. While ultimately the HHSC hopes to encourage the formation of health regions averaging 500,000 population, as the key comprehensive health administration units, this movement is being carried out through the state governments.

In the field of education, only the Australian Universities Commission works directly with the nation's universities. The other two federal bodies in the Ministry of Education concerned with colleges of advanced education and with schools of technical and further education exert their influence through their corresponding state agencies. Indeed, the principal decision-making for these two tiers of schools is at the state level, with the federal commissions serving largely to coordinate different state programs and to give advice necessary to avoid needless overlapping or to fill manifest gaps. Australian leadership is concerned about balanced development of its health manpower resources, without over-training no less than under-training.

Regarding health insurance, the former National Health Benefits Act administered by the federal Ministry of Health was associated with little federal influence. Since local voluntary health insurance funds ran the program, there was little to be done at the national level outside of setting the "most common fees" for doctors, giving the necessary subsidies to the funds and, to a lesser extent, to the hospitals. With the new National Health Insurance Act, we may expect more direct federal controls. It is probable that the federal Ministry of Social Security will eventually be more rigorous in reviewing the necessity of hospital admissions and medical procedures. At the outset, however, it is noteworthy that the local funds are being invited to serve as agents for the first three years (perhaps longer), if only to ease the transition from local to federal management.(10)

In certain programs, like that of the Repatriation Commission and the administration of health services in Commonwealth territories, the federal government runs affairs directly. Despite the pride of state sovereignty, it is noteworthy that the quality of medical care provided by the Repatriation Commission is held in high regard by everyone. And it is no accident that the pilot projects for community health centers of the most comprehensive scope have been conducted in the Australian Capital Territory.

Registration of Health Personnel

The simplicity of registration – or legal authorization to practice a health profession – in the Australian states may be contrasted with the relative complexities of professional licensure in the United States. Graduates of Australian medical schools and the schools of New Zealand and Great Britain are automatically registered, without the requirement, as in America, of taking a second examination. The reason, of course, is that these training schools have been approved – indeed, usually operated – by government, and no further verification of their merit is needed. The same is true for dentists, optometrists, pharmacists, and several other types of personnel. The examinations for the degrees given by the schools are deemed adequate. Only for nurses, whose training has been conducted in scores of different hospitals throughout this large country, are there requirements for a "second examination" for registration in a state. Basic qualifications of a nurse trained and registered in one Australian state, however, are generally accepted as adequate for registration in any other state. For post-basic nursing specialty qualifications, however, educational requirements may differ among the states, and recognition is not necessarily reciprocal.

The problem of special examinations by the state professional registration boards arises only for graduates of foreign schools. As discussed in Chapter Five, the legal requirements in this regard are rather complicated, since each state differs in the foreign schools that it recognizes in each professional field and in the examinations, clinical experience, and other procedures that it demands. The federal Committee on Overseas Professional Qualifications (COPQ), now attached to the Department of Labor and Immigration, evaluates foreign schools in all fields, for the benefit of the states, but it has no federal licensing authority. Through its influence, the American ECFMG (Educational Council for Foreign Medical Graduates) examination has come to be administered in Australian embassies around the world, as a screening procedure, before would-be emigrants embark for professional practice in Australia. COPQ, as noted earlier, is working toward the development of nationally uniform standards for foreign graduates by all six states in each professional field.

In terms of lessons for the United States, one might hope that the day has now been reached when all medical schools in the nation would be regarded as being of adequate quality to entitle their graduates to automatic licensure in any state, without imposition of a second examination. The origins of most of our state licensure laws in the pre-Flexner period are quite understandable, but differences in these laws would hardly seem justified in the current period of medical school accreditation by accepted national bodies (the American Medical Association and the Association of American Medical Colleges). In fact, recognition in nearly all the states of the examinations of the National Board of Medical Examiners or of the Federation of State Medical Licensing Boards (FLEX) or of both examinations is an indirect means of achieving national standards. Judicial decisions have pointed to the soundness of national standards for licensure by recognizing nation-wide standards of medical care, in place of the former rule that the accepted standard of care was that provided in the local community. The "community" is now the nation. National standards for licensure of physicians and dentists, which might be adopted by the states as basic minimum standards, would accomplish directly what national examinations now seek to achieve indirectly. It is paradoxically interesting that specialty qualifications in America are certified by national bodies, albeit in the non-governmental sector.

Other Regulatory Influences

A few other regulatory influences on the quality of medical service or the equity of its distribution may be briefly noted.

Various programs of continuing education have been mentioned earlier in this chapter and more fully in Chapter Four. Obviously, these are activities intended to protect and promote the quality of performance of octors and other health personnel. In Australia, as in merica, there has been discussion of mandating upated qualifications through re-certification of memberhip in certain specialty Colleges. If done, this will probably depend mainly on proof of having undertaken specified amounts of continuing education.

The question of measures for achieving improved geographic distribution of health personnel has been discussed in Chapter Two. Up to now Australia, always alert to its Constitutional ban on "conscription," has used various voluntary inducements in the form of obligations following financial support of education (cadetships), guaranteed minimum incomes, or establishment of salaried rural posts. The former health insurance system tended somewhat to equalize geographic distribution by helping assure good incomes for country doctors. With the new national Health Insurance Act, it may be that Australia will adopt from the British the concept of prohibiting settlement in "over-doctored areas," for purposes of insurance participation, and in this way indirectly induce doctors to settle in areas of shortage.

The rise of consumerism as a pressure for improving the equitable availability of health services has been slow in Australia. Again, with national health insurance, to which virtually everyone will be contributing by law, we may expect that demands for a stronger consumer voice in formulation of health service policy at national, state, and regional levels will be increasingly heard.

By the same token, voluntary agencies continue to play a strong role in the Australian health service system. Public hospitals, no less than private ones, are supported and enriched by countless efforts of voluntary bodies and public-spirited citizens. It would be misleading, however, not to recognize the crucial part played by federal initiatives, as well as governments at the state level, in the achievement of equity in the entire field of health services.

Finally, the achievement of health care equity in Australia, as elsewhere, depends on having reliable information about how resources are distributed, to what extent services are received by the population, and what results do the services produce. This calls for adequate records, systematic data collection, and analysis of experience – medical and fiscal. The national Hospitals and Health Services Commission has been giving grants to the states and also to many health regions for just these purposes. In New South Wales, an Office of Health Services Research has been operating for some time, and the other states are gradually following suit. Equivalent perhaps to United States actions in the field of "comprehensive health planning," the national and state efforts for advancing research and planning on health services are significant Australian efforts to achieve equity. With the sanctions eventually feasible under universal health insurance, one may expect that equity – the provision of health services in reasonable proportion to human and social needs – will be increasingly approached, if not attained. Central to this objective will be the appropriate output, distribution, and qualitative performance of health manpower.

EPILOGUE

Since this account was written, in late 1974, the Australian health services scene has continued to change. As noted above, because of the Senate defeat (by one vote) of the 1.35 percent earmarked tax on incomes, up to a $150 ceiling, the health insurance program enacted is supported from consolidated revenues. As though to emphasize its primarily financial character, rather than involvement with the patterns of delivering health care, the new program has come to be known as "Medibank."

On the eve of the effective date, 1 July 1975, the administration of Medibank was lodged mainly in the newly appointed Health Insurance Commission under the Ministry of Social Security. The voluntary health insurance funds had declined to serve as agents of the government (as in the U.S. Medicare program) for handling claims. Instead, the government is making contracts with Australia's 3000 pharmacies to serve as middlemen for forwarding to the Commission claims brought in by patients. (This pattern had been previously used by the voluntary insurance funds themselves; for the service, the pharmacist is paid a small administrative fee and, moreover, he gains from the business arising from patients entering his drugstore.) Payments will then be issued directly by the Health Insurance Commission to the provider or the patient, depending on whether "assignment" of the reimbursement was made.

As of the starting date, all persons in Australia will be protected for the costs of physician's care. If the doctor accepts assignment, the patient will pay him 15 percent of the approved charge, but never to exceed Austr. $5; if he does not, the patient may end up with a higher co-payment obligation. It remains to be seen whether competitive market forces will result, as in Canada, in acceptance of assignment by the vast majority of doctors.

Hospitalization arrangements will be less sweepingly changed at the outset. As of 30 June 1975, just three states – South Australia, Tasmania, and Queensland – out of the six had concluded agreements with the federal government to share the operating costs of public general hospitals on a 50-50 basis. The other three – New South Wales, Victoria, and Western Australia – were holding out for more favorable arrangements (e.g., shared costs of mental hospitals), although other political considerations doubtless also played a part (state-federal discrepancies in the political parties in power). In any event, observers expected all six states to join in the program before long, since any state witholding agreement was, in effect, subsidizing hospital costs – because the federal funds came from general revenues – in the other states. Voluntary hospitals in all states, furthermore, will be receiving federal payments of Austr. $16 per patient day instead of the previous $2 subsidy.

The private health insurance funds remained as active as ever, of course, in the three non-cooperating states, while in the other three they emphasized coverage of supplemental benefits, such as private room charges in both public and voluntary hospitals. In public hospitals, the movement toward sessional payments or full-time salaries for qualified staff specialists continued to accelerate.

While opposition to the Medibank program continued to be expressed by the Australian Medical Association, competent observers did not anticipate a radical rise in medical care demand to occur after 1 July 1975. Rather, it was expected that doctors and hospitals, as well as state governments, would simply find themselves in a more satisfactory financial condition than in the past. Even if a change of Australia's national government were to occur, several political commentators observed, the new Medibank program would probably be retained. Universal population coverage with broad health services are the global trend. It is from this reality that health manpower policies and practices will follow in Australia, as elsewhere.

(30 June 1975)

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Appendix I

AUSTRALIAN AGENCIES AND INDIVIDUALS INTERVIEWED 1973-74

Australian Government Agencies and Personnel

Department of Health
- Minister for Health, Dr. D. N. Everingham
- Director, Planning and Research, Mr. Matthew Carroll
- Assistant Director, Mr. Peter Pflaum
- Manpower Planning, Mr. James Marshall
- Director, Dental Services, Dr. Lloyd Carr
- International Health, Dr. John Cumming
- Meeting with chiefs of divisions of Department of Health

Department of Social Security
- Director-General, Mr. L. J. Daniels
- Special Advisers to the Minister, Dr. Richard Bailey Scotton and Dr. John S. Deeble

Department of Repatriation and Compensation
- Chairman, Mr. R. Kingsland

Hospitals and Health Services Commission
- Director, Dr. Sidney Sax
- Members of Commission, Mr. Paul Gross and others
- Meeting with Committee on Health Careers

National Health and Medical Research Council
- Secretary, Dr. K. W. Edmondson

Committee on Overseas Professional Qualifications
- Director, Mr. R. H. Ramsay, and staff

Commission on Advanced Education
- Director, Mr. Tom Swanson
- Assistant Director, Mr. Huntley Graham

Australian Universities Commission
- Director, Professor Peter Karmel

Australian Capital Territory Health Commission
- Director, Dr. Ron Wells
- Associate, Mrs. Ann Kern

State Government Agencies and Personnel

State Ministers of Health
- Minister of Health of South Australia, Mr. D. H. Banfield
- Minister for Health, Queensland, Mr. S. D. Tooth

State Health and Hospitals Agencies
- Department of Health, State of Victoria
  - Chief Medical Officer, Dr. William Stevenson
  - Deputy, Dr. McCloskey

- Hospitals and Charities Commission, State of Victoria
  - Director, Dr. E. Wilder

Department of Health Services, State of Tasmania
- Director-General of Health Services, Dr. J. R. Macintyre
- Acting Director-General, Dr. G. Mackay-Smith
- Director of Public Health, Dr. A. D. Ross

Department of Public Health, State of South Australia
- Director-General, Dr. P. Woodruff, and staff

Hospitals and Mental Health Department, State of South Australia
- Director-General, Dr. Brian J. Shea
- Personnel and Staff Development, Mr. Bruggerman and Mr. Robert Ritchie
- Health Research Unit, Departments of Public Health and Hospitals, Dr. Peter Last

Health Department, State of Queensland
- Director-General, Dr. Ross Patrick
- Community Health Centers, Dr. R. Godwin
- Director of Planning and Development, Dr. O. W. Powell
- Senior Social Worker, Miss M. Whiley
- Senior Occupational Therapist, Miss R. Read

Health Commission of New South Wales
- Chairman, Dr. Roderick McEwin
- Deputy Chairman and Commissioner for Manpower, Mr. George Slough
- Commissioner for Personal Health Services, Dr. William Barclay
- Commissioner for Special Services and Environmental Health, Dr. David Storey
- Staff: Principal Medical Officer, Bureau of Personal Health Services, Dr. Trevor King
  - Bureau of Manpower and Management, Mr. Jack Manley
  - Director, Division of Staff Development, Mr. James Westerway
  - Deputy Director, Dental Services, Mr. Wright
  - Director, Division of Health Services Research, Dr. Anthony I. Adams, and staff

- Regional Directors:
    - Western Metropolitan Health Region, Dr. Gary Andrews and staff
    - Northern Metropolitan Health Region, Dr. James Lawson (formerly Director of Hospitals, Tasmania)

- Mental Health Agencies
    - Mental Health Authority, State of Victoria
        - Director, Dr. Alan Stoller
    - Mental Health Services Commission, State of Tasmania
        - Director, Dr. John Wetherley, and Mr. Mansbridge
- State Registration Boards
    - Medical and Other Registration Boards, New South Wales, Mr. Robert Sheraton
    - Medical Registration Board of Victoria, Mr. Appleby
    - Medical Board of South Australia, Mr. L. Smith
    - Medical and Other Professional Boards of Queensland, Mr. C. Tuckfield
    - Nurses Registration Board of New South Wales, Miss Betty Lyons
    - Victorian Council of Nurses (registration body), Miss Mona Menzies
    - Nurses Registration Board of Tasmania, Miss V. P. Holland
    - Nurses Board of South Australia, Dr. B. Nicholson, Miss Smith, and Mr. Bevan
    - Nurses Board of Queensland, Miss J. Foley
    - Pharmacy Board of Victoria, Mr. S. N. Leyshon

- State Educational Agencies
    - Nurses Education Board of New South Wales, Miss Betty Lyons
    - Victorian Institute of Colleges, Director, Mr. Barnett
    - Advanced Education Board of New South Wales
        - Executive Member, Mr. Lionel John Allen
    - Department of Technical Education, New South Wales
        - Superintendent, Mr. H. Wooldridge

- Other
    - Public Service Board of New South Wales, Mr. Colin Alt

Universities and Colleges

- Monash University, Prahan and Melbourne
    - Dean of the Medical Faculty, Dr. R. R. Andrew
    - Chairman, Department of Social Medicine, Dr. Basil Hetzel
        - Other members of Department, Dr. Richard Southby, Dr. Trevor Cutting

- University of Melbourne, School of Medicine
    - Professor of Internal Medicine, Dr. D. G. Penington

- University of Tasmania, Faculty of Medicine
    - Administrative Officer, Clinical School, Mr. West

- University of Adelaide
    - Dean, Faculty of Medicine, Dr. I. Pilowsky
    - Reader in Community Medicine, Dr. Timothy Murrell

- University of Flinders, Medical Center
    - Dean of Medical Faculty, Professor G.J. Fraenkel

- University of Queensland
    - Vice-Chancellor, Professor Zelman Cowen
    - Dean of Medical Faculty, Dr. E. G. Saint
    - Chairman, Department of Social and Preventive Medicine, Dr. Douglas Gordon
    - Statistician, Dr. Silverstone
    - Head, Physiotherapy Department, Dr. M. I. Bullock
    - Head, Department of Social Work, Professor E. Chamberlain
    - Head, Occupational Therapy Department, Miss J. Line

- University of New South Wales
    - Dean, School of Medicine, Professor R. Walsh
    - School of Health Administration
        - Director, Professor George Palmer
        - Professor John C. H. Dewdney
    - Tertiary Education Centre, Ms. Ruth White

- Colleges of Advanced Education
    - Royal Melbourne Institute of Technology, Mr. Barry Fradkin
    - College of Advanced Education, Hobart, Tasmania
        - Principal, Dr. Paul Wisch
    - South Australia Institute of Technology
        - Director, Dr. S. Evans
    - College of Advanced Education, Flinders campus
        - Director, Dr. Speedy
    - Queensland Institute of Technology
        - Head, Department of Paramedical Studies, Mr. J. R. Saal
        - Lecturer in Physiology, Mrs. Y. Webb
        - Lecturer in Hematology, Mr. A. B. Findlay
        - Lecturer in Chiropody, Mr. L. Claxton
    - College of Paramedical Studies of New South Wales
        - Principal, Dr. Jeffrey Miller
        - Assistant Principal, Dr. R. W. Rawlinson
        - School of Nursing, Dr. Robin Parsons
        - School of Occupational Therapy, Ms. Nora Crowhurst
    - Lincoln House
        - Director, Dr. R. W. Edwards

- Independent Colleges
    - Victoria College of Pharmacy, Mr. S. N. Leyshon
    - College of Nursing, Australia, Melbourne, Miss Pat Slater and Miss Mary Osborne

- Schools of Dental Therapy
    - School of Dental Nursing of Tasmania
        - Principal, Dr. B. A. J. Riedel
        - District Dental Officer, Dr. Alan Eslake
    - School of Dental Therapy of South Australia
        - Director, Dr. A. D. Kennare

Professional Associations

- Australian Medical Association
    - National President, Dr. Keith Jones
    - National Treasurer, Dr. Lionel Wilson

National Secretary-General, Dr. George Repin
Victorian Branch, Dr. Arthur Burton
Tasmanian Branch, Dr. Peter Gill
Queensland Branch, President, Dr. R. F. O'Shea
  Past Presidents, Dr. J. Lee and Dr. E. R. W. Thomson

Royal Australian College of General Practitioners
  Family Medicine Program
    Melbourne, Dr. R. Harbison and Dr. W. Fabb
    Tasmania, Dr. Peter Gill
    Sydney, Dr. Farrar and Dr. John Dowsett

Royal Australasian College of Physicians
  Past-President, Dr. Rennie

Royal Australasian College of Surgeons
  Secretary, Mr. R. A. Chapman
  Senior Vice-President (and Professor of Surgery, Monash University), Mr. E. S. R. Hughes

Australasian and New Zealand Association of Medical Education
  President, Dr. William McCarthy

Melbourne Medical Postgraduate Committee
  Director, Dr. R. M. McLellan

College of Medical Administrators, South Australia, Queensland, and New South Wales

Australian Dental Association, Tasmanian Branch

Royal Australian Nursing Federation
  Federal Secretary, Miss Mary E. Patten

Royal District Nursing Service, Melbourne
  Director of Nursing, Miss Mary Evans

New South Wales Nurses Association
  General Secretary-Treasurer, Miss Mary Henlen

Pharmacy Guild of Australia
  President, Mr. John Matthews

Social Workers Association New South Wales
  President, Mr. M. Horsborough

Australian Hospital Association
  Executive Vice-President, Mr. Royce Kronborg

Voluntary Insurance Funds

Health Benefits Fund, Melbourne
  Mr. Derek Shaw and Mr. Eric Hale

National Health Services Association and Mutual Hospital Association, Adelaide
  Manager, Mutual Hospital Association, Mr. James Mansfield
  National Health Services Association, Mr. Keith Moon

Voluntary Health Insurance Agencies Association and Medical Benefits Fund of Australia
  President, Mr. Jack Cade

Hospitals, Clinics, and Health Centers

Alfred Hospital, Melbourne
  Medical Superintendent, Dr. Ian Howard

Royal Hobart Hospital, Tasmania
  Chairman of the Board, Sir Basil Osborne
  General Superintendent, Dr. J. M. Sparrow

Royal Adelaide Hospital, South Australia
  Administrator, Mr. R. L. Hooper
  Medical Superintendent, Dr. Bernard Nicholson
  Superintendent of Nurses, Miss Spry
  Principal Tutor, Ms. Nan Clark

The Adelaide Children's Hospital
  President of the Board, Sir Clarence Rieger
  Administrative Superintendent, Mr. J. Gibbs
  Medical Superintendent, Dr. R. McCoy

Royal Brisbane Hospital, Queensland
  Chairman of the Board, Mr. N. Wotley
  Medical Superintendent, Dr. A. F. Knyvett

Princess Alexandra Hospital, Brisbane
  Medical Superintendent, Dr. J. G. Golledge and senior paramedical staff

Royal North Shore Hospital, Sydney
  Medical Superintendent, Dr. Roger Vanderfield

North Eastern Community Hospital (private), Adelaide
  Administrator, Mr. G. Bound
  Medical Director, Dr. Steele

Kilcoy Hospital, Queensland (rural)

St. Vincent's Hospital, Sydney
  Director of Community Medicine, Dr. Neville Andersen

Health Centers in the Australian Capital Territory at Melba and Narrabunda

South Brisbane Community Home Care Centre
  Director, Dr. M. Cheong, and Dr. Glenda Powell

Trade Union Clinic and Research Center, Footscray (Melbourne)
  Administrator, Allen W. V. Bailey, and Dr. Garry Joslin

Rural Practice, Kingborough Municipality, Snug, Tasmania
  Dr. Varejka

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